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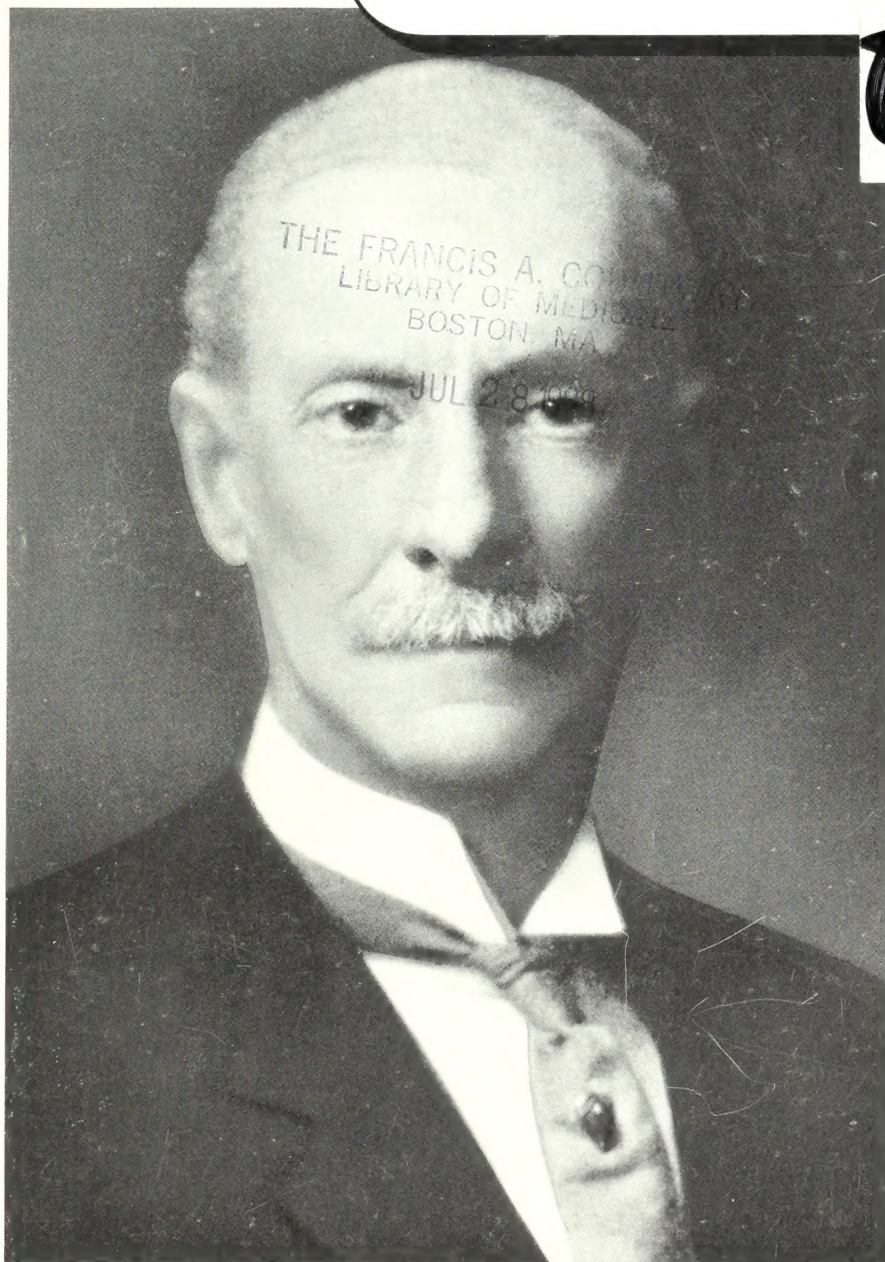
JULY 1988

VOL. 81

NO. 7

INDIANA MEDICINE

The Journal of the Indiana State Medical Association



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INDIANA MEDICINE

Vol. 81, No. 7
JULY 1988

Devoted to the interests of the medical profession and public health in Indiana since 1908.

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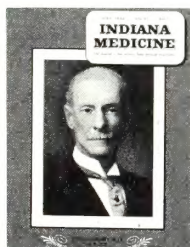
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ABOUT THE COVER

John N. Hurty, M.D., was secretary of the Indiana State Board of Health from 1896 to 1922. Some of his accomplishments are mentioned in this issue in Snakeroot Extract, an Indiana medical history newsletter. The Indiana Medical History Museum collection includes Dr. Hurty's pharmaceutical certificates, medical diploma and laboratory equipment.

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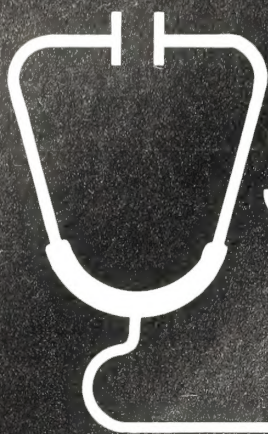
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STETHOSCOPE

EXAMINING STATE & NATIONAL MEDICAL ISSUES

The American Medical Association continues to seek co-sponsors for H.R. 4455, a bill to reform the Medicare program. The bill would create a self-funded health care plan financed through a tax on adjusted gross income during working years. A voucher system would permit persons 65 and above to purchase health insurance with comprehensive benefits, including catastrophic protection, from competing carriers. Rep. Charles Rose, D-N.Car, the bill's sponsor, has sent a request for cosponsors. The AMA plans to seek support from state and county medical societies in a campaign to gain cosponsors.

Congressional hearings on the relative value scale are expected to be held in October. The Physician Payment Review Commission is recommending establishing a Medicare physician fee schedule based upon an RVS. It has not endorsed the resource-based RVS study now being finalized by Harvard U.

Non-profit organizations with profit-making subsidiaries could be stripped of their tax-exempt status. An "aggregation" proposal, adopted by the Oversight Subcommittee of the House Ways and Means Committee, would allow the IRS to deny an organization of its non-profit status. Tax-exempt status would be revoked if the IRS determines that the organization is no longer charitable.

The AMA says such a proposal would prohibit many medical associations from providing public services such as accreditation, peer review, and medical assistance.

Philip Morris learned their boomerang wouldn't come back when they lost the sponsorship of the U.S. Boomerang Team to Doctors Ought to Care. DOC, the physician-led health promotion organization, agreed to contribute \$12,000 to sponsor the team at the 1988 World Boomerang Throwing Cup in Australia.

Their official logo? The no-smoking emblem. Tobacco companies have garnered millions of dollars of advertising through sponsorship of many athletic teams. In this case, DOC beat them at their own game.

IN INDIANA...

Indiana's new rule prohibiting the prescribing and dispensing of Schedule II amphetamines for weight loss went into effect July 1. The rule also restricts the prescribing and dispensing of Schedule III and IV stimulants for weight control to three non-refillable 30 calendar-day supplies per year. Physicians are required to obtain a thorough patient history and perform a physical exam on patients before prescribing or dispensing Schedule III and IV drugs for weight loss.

The rule came about following the AMA-sponsored Prescription Abuse Data Synthesis Report, which determined that Indiana ranked sixth nationally for amphetamine consumption and eighth for consumption of methamphetamines.

For a list of Schedule II, III and IV amphetamines restricted by the rule, see the July issue of ISMA Reports.

The Indiana Department of Public Welfare plans to activate a committee made up of primary care physicians to study how to implement the managed care program for Medicaid recipients. The plan is expected to be operational in a year.

It would require Medicaid recipients to receive medical care only from a primary care physician who has contracted with the welfare department. Medicaid patients would have to be referred by their managed care physician to specialists.

The department has not applied for the necessary waiver from the Health Care Financing Administration. No provider agreement has been developed, but that will be one of the tasks assigned to the committee.

Don't forget the Key Contact Seminar sponsored by IMPAC and ISMA on Aug. 24 at the Embassy Suites North in Indianapolis. The day-long seminar will examine the political environment, show you why grass roots action is necessary and how you can get involved.

It's free, but space is limited and reservations must be made before Aug. 4.

The Indiana Chapter of the American Academy of Pediatrics has developed a Liaison Child Abuse Forum in Marion County to address the problem of child abuse and neglect.

Other groups involved include 11 hospitals, the Marion County Health Department, the Indiana State Board of Health, the Marion County Prosecutor's office and the Indiana University School of Medicine's Department of Pediatrics.

Dr. Roberta A. Hibbard is chairman of the Indiana Chapter of the American Academy of Pediatrics and coordinates the liaison group.

ISMA has scheduled nine legislative dinners around the state. The dinners give physicians an opportunity to meet with legislators to discuss health-related issues.

Here are the dates and locations: July 20, Chase Restaurant, Terre Haute; July 27, Patio Restaurant, Merrillville; Aug. 1, Ramada Inn, Kokomo; Aug. 9, Marriott, Fort Wayne; Aug. 17, Tippecanoe Place Restaurant, South Bend; Aug. 31, Porticos, Bloomington; Sept. 8, Parelli's Restaurant, Jeffersonville; Sept. 29, Indianapolis, and Oct. 11, Evansville, sites to be determined.

Unless otherwise indicated, receptions preceding the dinner will begin at 6:30 with dinner at 7 p.m.

MEDICAL MUSEUM NOTES



CHARLES A. BONSETT, M.D., Indianapolis

IF YOU WERE asked to give an address before the graduating class of a present-day medical school, what advice would you give? Read the following comments given by Dr. James H. Taylor to the graduates of the Indiana Medical College in 1900 and consider what changes might be necessary today.

The average 1900 Indiana medical graduate would have had a four-year medical education. He would have had a high school education as preparation for medical school, but no undergraduate training. He would begin to practice medicine without benefit of internship or other practical experience.

Dr. Taylor was an Indianapolis physician who was 47 years old when he gave this address. He was Professor of Pediatrics at the Indiana Medical College and at the time of his death in 1944, at age 91, was Professor Emeritus of Pediatrics at IUSM. Dr. Taylor had taught and practiced until he was 78. He was instrumental in organizing the Fresh Air Mission for Children in 1890 and, later, the Family Welfare Society. In 1885, he helped organize the Arsenal Building and Loan Association. As a member of the board of aldermen, he was chairman of the committee drafting the ordinance for street lighting in Indianapolis and for changing the city's transit system from mule-drawn cars to electrically operated vehicles. The following excerpts are only a portion of his total address:

"Gentlemen, when you leave these lecture halls, much will be expected of you. Permit me, in a meager way, to suggest a few things you should do, and some things you should not do.

"Conduct yourselves as gentlemen at all times.

"Dress as well as you can afford and keep your clothing and linen clean—especially free from stains of tobacco.

"Keep your hands and fingernails clean.

"Keep your office clean, neat and tidy.

"Obey every call at earliest convenience.

"Have a kind word for everybody.

"Treat your fellow practitioners courteously at all times.

"Having assumed charge of a patient, give it your best efforts, be the case rich or poor. . . .

"Never be guilty of unprofessional conduct. . . .

"Do not move your office—pay your rent and stay as long as you can. A change of location is a detriment to one's practice.

"Read the current medical literature as assiduously as the clergyman reads his Bible . . ."

"Do not divulge professional secrets—on such matters keep your mouths shut—let others do the gossiping.

"If you cannot say anything good of anybody, keep silent altogether. . . .

"Send your bills at regular intervals; the older the bill, the less the appreciation of services.

"Charge the highest fee consistent with the custom of the community where you reside, and adhere to it—it will give you prestige. You have the right to donate your services to charity, but no article deserves a more constant par value than medical skill.

"Affiliate with the nearest medical society and endeavor to attend and participate in its proceedings. Identify yourself with the church of your choice, and attend when it does not conflict with your professional duties.

"Pay your honest debts, but never own any realty, lest some worthless ingrate attempt to rob you of the same

through the agency of some unscrupulous culture of the law. . . .

"Avoid intimacy with your patrons.

"Do not allow loafing in your office.

"Do not play billiards or participate in other games in the pool room.

"Do not indulge in intoxicants. Never attempt to steady your nerves by taking liquors or narcotics.

"Never use slang phrases, and avoid the practice of telling smutty stories.

"Read the current medical literature as assiduously as the clergyman reads his Bible, and thus keep abreast with the times. . . .

"Do not loaf about country stores or whittle goods boxes and spit tobacco juice with an air of a cowboy, in the presence of bystanders. . . .

"Be calm and do not allow yourself to be disconcerted under any circumstances. . . .

"Remember that he who controls his temper is greater than he who taketh a city. . . .

"Ever carry an air of cheerfulness and sunshine into the sickroom. A gloomy, sanctimonious countenance is as much out of place here as a man with his trousers in his boots at a parlor dance, or the playing of ragtime music at a funeral. . . .

"Observe the medical code of ethics, but let common sense guide your judgment in determining the construction of its details.

"Let me admonish you to adopt the standard of the most noble character known to you in the medical profession at the very threshold of your career. Let your ambition be to raise your own higher if possible. As Gail Hamilton puts it, 'It is better to aim high and fall a little below than to aim low and make an utter failure. . . .'

"Keep the oil in your lamp of progress ever burning. Let not the wavering hand of discontent thwart your efforts in an onward and upward course, and success will be yours. Your responsibilities will be great; yet ample reward awaits your conscientious endeavors."



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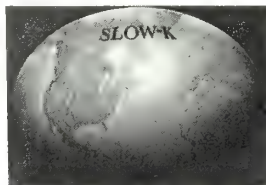
*Based on worldwide sales data on file, CIBA Pharmaceutical Company.
Capsule or tablet slow-release potassium chloride preparations should be reserved for patients who cannot tolerate, refuse to take, or have compliance problems with liquid or effervescent potassium preparations because of reports of intestinal and gastric ulceration and bleeding with slow-release KCl preparations.

Before prescribing, please consult Brief Prescribing Information on next page.

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For patients who can't or won't tolerate liquid KCl

*The most common adverse reactions to potassium salts are gastrointestinal side effects

[†]Pooled mean serum potassium following oral administration of 30 mEq K-Tab compared to 24 mEq Slow-K in diuretic-treated hypertensives (n = 20) over 8 weeks.

C I B A

References: 1. Data on file, CIBA Pharmaceutical Company. 2. Skoutakis VA, Acciardo SR, Wojciechowski NJ, et al. Liquid and solid potassium chloride. Bioavailability and safety. *Pharmacotherapy* 1980;4(6):392-397. 3. Skoutakis VA, Carter GA, Acciardo SR. Therapeutic assessment of Slow-K and K-Tab potassium chloride formulations in hypertensive patients treated with thiazide diuretics. *Drug Intell Clin Pharm* 1987;21:436-440.

Slow-K[®]
potassium chloride USP
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BRIEF SUMMARY (FOR FULL PRESCRIBING INFORMATION SEE PACKAGE INSERT)

INDICATIONS AND USAGE

BECAUSE OF REPORTS OF INTESTINAL AND GASTRIC ULCERATION AND BLEEDING WITH SLOW-RELEASE POTASSIUM CHLORIDE PREPARATIONS, THESE DRUGS SHOULD BE RESERVED FOR THOSE PATIENTS WHO CANNOT TOLERATE OR REFUSE TO TAKE LIQUID OR EFFERVESCENT POTASSIUM PREPARATIONS OR FOR PATIENTS IN WHOM THERE IS A PROBLEM OF COMPLIANCE WITH THESE PREPARATIONS.

1. For therapeutic use in patients with hypokalemia with or without metabolic alkalosis, in digitalis intoxication and in patients with hypokalemic familial periodic paralysis.

2. For prevention of potassium depletion when the dietary intake of potassium is inadequate in the following conditions: patients receiving digitalis and diuretics for congestive heart failure, hepatic cirrhosis with ascites, states of aldosterone excess with normal renal function, potassium-losing nephropathy, and certain diarrheal states.

3. The use of potassium salts in patients receiving diuretics for uncomplicated essential hypertension is often unnecessary when such patients have a normal dietary pattern. Serum potassium should be checked periodically, however, and if hypokalemia occurs, dietary supplementation with potassium-containing foods may be adequate to control milder cases. In more severe cases supplementation with potassium salts may be indicated.

CONTRAINDICATIONS

Potassium supplements are contraindicated in patients with hyperkalemia since a further increase in serum potassium concentration in such patients can produce cardiac arrest. Hyperkalemia may complicate any of the following conditions: chronic renal failure, systemic acidosis such as diabetic acidosis, acute dehydration, extensive tissue breakdown as in severe burns, adrenal insufficiency, or the administration of a potassium-sparing diuretic (e.g., spironolactone, furosemide) (see **OVERDOSAGE**).

All solid dosage forms of potassium supplements are contraindicated in any patient in whom there is cause for arrest or delay in tablet passage through the gastrointestinal tract. In these instances, potassium supplementation should be with a liquid preparation. Wax-matrix potassium chloride preparations have produced esophageal ulceration in certain cardiac patients with esophageal compression due to an enlarged left atrium.

WARNINGS

Hyperkalemia (See **OVERDOSAGE**)

In patients with impaired mechanisms for excreting potassium, the administration of potassium salts can produce hyperkalemia and cardiac arrest. This occurs most commonly in patients given potassium by the intravenous route but may also occur in patients given potassium orally. Potentially fatal hyperkalemia can develop rapidly and be asymptomatic.

The use of potassium salts in patients with chronic renal disease, or any other condition which impairs potassium excretion, requires particularly careful monitoring of the serum potassium concentration and appropriate dosage adjustment.

Interaction With Potassium-Sparing Diuretics

Hypokalemia should not be treated by the concomitant administration of potassium salts and a potassium-sparing diuretic (e.g., spironolactone or furosemide), since the simultaneous administration of these agents can produce severe hyperkalemia.

Gastrointestinal Lesions

Potassium chloride tablets have produced stenotic and/or ulcerative lesions of the small bowel and deaths. These lesions are caused by a high localized concentration of potassium ion in the region of a rapidly dissolving tablet which injures the bowel wall and thereby produces obstruction, hemorrhage, or perforation. Slow-K is a wax-matrix tablet formulated to provide a controlled rate of release of potassium chloride and thus to minimize the possibility of a high local concentration of potassium ion near the bowel wall. While the reported frequency of small-bowel lesions is much less with wax-matrix tablets (less than one per 100,000 patient-years) than with enteric-coated potassium chloride tablets (40-50 per 100,000 patient-years), cases associated with wax-matrix tablets have been reported both in foreign countries and in the United States. In addition, perhaps because the wax-matrix preparations are not enteric-coated and release potassium in the stomach, there have been reports of upper gastrointestinal bleeding associated with these products. The total number of gastrointestinal lesions remains approximately one per 100,000 patient-years. Slow-K should be discontinued immediately and the possibility of bowel obstruction or perforation considered if severe vomiting, abdominal pain, distention, or gastrointestinal bleeding occurs.

Metabolic Acidosis

Hypokalemia in patients with metabolic acidosis should be treated with an alkalinizing potassium salt such as potassium bicarbonate, potassium citrate, or potassium acetate.

PRECAUTIONS

General

The diagnosis of potassium depletion is ordinarily made by demonstrating hypokalemia in a patient with a clinical history suggesting some cause for potassium depletion. In interpreting the serum potassium level, the physician should bear in mind that acute alkalosis *per se* can produce hypokalemia in the absence of a deficit in total body potassium, while acute acidosis *per se* can increase the serum potassium concentration into the normal range even in the presence of a reduced total body potassium.

Information for Patients

Physicians should consider reminding the patient of the following:

To take each dose without crushing, chewing, or sucking the tablets.

To take this medicine only as directed. This is especially important if the patient is also taking both diuretics and digitalis preparations.

To check with the physician if there is trouble swallowing tablets or if the tablets seem to stick in the throat.

To check with the doctor at once if tarry stools or other evidence of gastrointestinal bleeding is noticed.

Laboratory Tests

Regular serum potassium determinations are recommended. In addition, during the treatment of potassium depletion, careful attention should be paid to acid-base balance, other serum electrolyte levels, the electrocardiogram, and the clinical status of the patient, particularly in the presence of cardiac disease, renal disease, or acidosis.

Drug Interactions

Potassium-sparing diuretics: see **WARNINGS**.

Carcinogenesis, Mutagenesis, Impairment of Fertility

Long-term carcinogenicity studies in animals have not been performed.

Pregnancy Category C

Animal reproduction studies have not been conducted with Slow-K. It is also not known whether Slow-K can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Slow-K should be given to a pregnant woman only if clearly needed.

Nursing Mothers

The normal potassium ion content of human milk is about 13 mEq/L. It is not known if Slow-K has an effect on this content. Caution should be exercised when Slow-K is administered to a nursing woman.

Pediatric Use

Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

One of the most severe adverse effects is hyperkalemia (see **CONTRAINDICATIONS**, **WARNINGS**, and **OVERDOSAGE**). There also have been reports of upper and lower gastrointestinal conditions including obstruction, bleeding, ulceration, and perforation (see **CONTRAINDICATIONS** and **WARNINGS**). Other factors known to be associated with such conditions were present in many of these patients.

The most common adverse reactions to oral potassium salts are nausea, vomiting, abdominal discomfort, and diarrhea. These symptoms are due to irritation of the gastrointestinal tract and are best managed by taking the dose with meals or reducing the dose.

Skin rash has been reported rarely.

OVERDOSAGE

The administration of oral potassium salts to persons with normal excretory mechanisms for potassium rarely causes serious hyperkalemia. However, if excretory mechanisms are impaired or if potassium is administered too rapidly intravenously, potentially fatal hyperkalemia can result (see **CONTRAINDICATIONS** and **WARNINGS**). It is important to recognize that hyperkalemia is usually asymptomatic and may be manifested only by an increased serum potassium concentration (6.5-8.0 mEq/L) and characteristic electrocardiographic changes (peaking of T waves, loss of P wave, depression of S-T segment, and prolongation of the Q-T interval). Late manifestations include muscle paralysis and cardiovascular collapse from cardiac arrest (9-12 mEq/L).

Treatment measures for hyperkalemia include the following: (1) elimination of foods and medications containing potassium and of potassium-sparing diuretics; (2) intravenous administration of 300-500 mL of 10% dextrose solution containing 10-20 units of insulin per 1,000 mL; (3) correction of acidosis, if present, with intravenous sodium bicarbonate; (4) use of exchange resins, hemodialysis, or peritoneal dialysis.

In treating hyperkalemia in patients who have been stabilized on digitalis, too rapid a lowering of the serum potassium concentration can produce digitalis toxicity.

DOSAGE AND ADMINISTRATION

The usual dietary intake of potassium by the average adult is 40-80 mEq per day. Potassium depletion sufficient to cause hypokalemia usually requires the loss of 200 or more mEq of potassium from the total body store. Dosage must be adjusted to the individual needs of each patient but is typically in the range of 20 mEq per day for the prevention of hypokalemia to 40-100 mEq or more per day for the treatment of potassium depletion. Large numbers of tablets should be given in divided doses.

Note: Slow-K slow-release tablets must be swallowed whole and never crushed, chewed, or sucked.

HOW SUPPLIED

Tablets—600 mg of potassium chloride (equivalent to 8 mEq) round, buff colored, sugar-coated (imprinted Slow-K).

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Consumer Pack—One Unit

12 Bottles—100 tablets each

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C I B A

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WHAT'S NEW?

A new emergency cart designed to increase the efficiency of code teams has been introduced by Waterloo Industries. The Full Access Emergency Cart sets new standards for crash carts. Doors swing open instantly and lock in place, affording all code members constant, simultaneous full-view access to every component in and on the cart.

An updated Cormatic® Antiseptic Lotion Soap information sheet with full specifications and test results is now available free from Georgia-Pacific and all Cormatic distributors. The mild soap is formulated with para-chloro-heta-xylene and is proven effective against fungi and both gram-positive and gram-negative bacteria.

Dista Products Company, a division of Eli Lilly and Company, announces the availability of Prozac® (fluoxetine hydrochloride), a new, once-a-day antidepressant. Although doses as high as 80 mg per day have been given in clinical trials, data suggest that most patients do not require more than 20 mg once a day. Because of the long elimination half-lives of fluoxetine (two to three days) and its major active metabolite (seven to nine days), changes in dose will not be fully reflected in plasma for several weeks, affecting both strategies for titration to final dose and withdrawal from treatment.



News of what is new in the medical supply industry is composed of abstracts from news releases by book publishers and manufacturers of pharmaceuticals, clinical laboratory supplies, instruments and surgical appliances. Each item is published as news and does not necessarily constitute an endorsement of a product or recommendation for its use by INDIANA MEDICINE or by the Indiana State Medical Association.

Hewlett-Packard Company has introduced a new cart for use with the HP 8040A and HP 8041A fetal monitors, as well as other HP bedside patient monitors. The HP 80310A cart is more compact and priced lower than existing HP carts. Therefore, when it is combined with the HP 8041A antepartum fetal monitor, the HP 80310A cart is a practical choice for private medical practitioners and hospital antepartum-testing areas.

Wampole Laboratories announces a newly improved Bactigen® meningitis testing product. Bactigen Meningitis Panel is a latex immunoassay for the direct and rapid detection of H. influenzae type b, N. Meningitidis A/B/C/Y/W135 and S. pneumoniae antigens in CSF, serum and urine. Bactigen® Group B Streptococcus-CS latex agglutination tests are also available.

Midmark® has a four-page, illustrated brochure describing the new Midmark® 405 Power Examination Table. It adjusts from a chair to a table at any height. Hand-held controls adjust chair/table height and angles. It is available in designer colors and with several options.

Cook Pacemaker Corporation has received FDA approval to market the KELVIN® 500 pacemaker. It is the first temperature-activated, rate-modulated cardiac pacemaker designed to mimic normal heart rhythm by sensing specific needs for cardiac output and responding appropriately.

CytoDiagnostics, Inc. has developed the Quantitative Fluorescence Imaging Analysis test, a major advancement in bladder cancer screening. The test evaluates the DNA in individual cells to detect bladder cancer in urine samples using measured amounts of fluorescent dye.

Medical Video Productions, Inc. announces the availability of the MVP Video Journal of Obstetrics and Gynecology. The bi-monthly journal joins previously published video journals covering orthopedics, ophthalmology and cardiology. C.M.E. credits are available for VJOG subscribers.

Ulti-Med had introduced its Maximum Control Gown for infection control. It is disposable, has improved barrier characteristics and reduced heat build-up and is tear- and puncture-resistant. The gown is non-absorbent and meets C.D.C. regulations and OSHA guidelines. The gown is available in all sizes and in two styles, full and open back.

Brentwood Instruments announces the availability of the RhythmScan™ Holter System. This advanced, fully verifiable Holter System greatly simplifies operation for physicians and nurses and is priced economically for private physicians' offices.

Children Who Don't Want to Live, by Israel Orbach, a new book published by Jossey-Bass Inc., Publishers, examines the factors that often lead children to attempt suicide. In his book, Orbach explains how family dynamics, religious upbringing, personality traits and hostile life circumstances can contribute to suicidal behavior. Dr. Orbach is senior clinical psychologist at the Albert Einstein School of Medicine. A pioneer in the exploration and assessment of suicidal tendencies in young children, he has written numerous articles on the subject.

Endocrinology, Diabetes

"Endocrinology and Diabetes Update," will introduce physicians to recent advances in endocrinology that can be used to manage problems such as thyroid and pituitary disorders and chronic diabetic complications.

Sponsored by the University of Michigan Medical School, the program will be offered Aug. 12-14 at the Grand Traverse Resort Village, Grand Traverse Village, Mich.

For details and registration information, write to Karen Brown, Office of CME, Towsley Center, Box 0201, University of Michigan Medical School, Ann Arbor, Mich. 48109-0201—(313) 763-1400 or 1-800-962-3555.

NIH Conference

An NIH Consensus Development Conference on "Urinary Incontinence in Adults" is scheduled Oct. 3-5 in the Masur Auditorium of the NIH Clinical Center, Bethesda, Md.

Urinary incontinence affects an estimated 35% of women and 15% of men over 60. The conference will review research data in an effort to reach consensus on appropriate diagnosis and treatment.

To register, contact: Prospect Associates, Suite 500, 1801 Rockville Pike, Rockville, Md. 20852—(301) 468-MEET.

Rheumatology

Lyme's disease will be featured in the program, "Update in Rheumatology-1988," set Oct. 7-8 in Madison, Wis. Sponsored by the University of Wisconsin Medical School, Department of Medicine and Continuing Medical Education, the course has been approved for AMA Category I and AAFP continuing education credit.

More information is available from: Sarah Z. Aslakson, Continuing Medical Education, 2715 Marshall Ct., Madison, Wis. 53705—(608) 263-2856.

The *Journal of the American Medical Association* publishes a list of CME courses for the United States twice yearly. The January listing features courses offered from March through August; the July listing features courses offered from September through February.

Plastic Surgery

The Division of Plastic and Reconstructive Surgery at the UCLA Center for Health Sciences has scheduled a four-day symposium, "Cosmetic Surgery of the Face and Breast," Sept. 14-18 in Monte Carlo, Monaco.

For a brochure detailing the symposium's agenda and fees, contact: Francine Leinhardt, Course Coordinator, 210 E. 64th St., New York, N.Y. 10021.

Neuro-ophthalmology

The University of Wisconsin will present a Clinical Neuro-ophthalmology Symposium Sept. 9-10 at the Wisconsin Center, Madison, Wis. The program is targeted toward ophthalmologists, neurologists and radiologists and qualifies for seven hours of AMA Category I CME credit.

For registration information, contact Cathy Means, Continuing Medical Education, 2715 Marshall Court, Madison, Wis. 53705—(608) 263-6637.

Indiana University CME

July 11-20: 73rd Annual Anatomy and Histopathology of the Head and Neck and Temporal Bone; Indiana University Medical Center campus, Indianapolis.

Aug. 19-20: Trauma Systems and Care; Lincoln Hotel and University Conference Center, Indianapolis.

For more information, call Melody Dian, CME, I.U. School of Medicine—(317) 274-8353.

St. Vincent CME

Aug. 6-7: Summer Ultrasound Physics Course, Cooling Auditorium, St. Vincent Hospital.

Sept. 9: Thirteenth Annual Arthur B. Richter Lectureship in Clinical Cardiology; Robert A. O'Rourke, M.D., San Antonio, Tex., guest lecturer; Sheraton Marten House, Indianapolis.

Sept. 15-18: Cardiopulmonary Rehabilitation and Prevention of Coronary Disease: Status '88-90s; co-sponsored with Indiana Heart Institute; Hilton on the Circle, Indianapolis.

Sept. 17-18: Ultrasound Seminar, Cooling Auditorium, St. Vincent Hospital.

Sept. 22-23: GYN Laser Course, St. Vincent Hospital.

Oct. 9-11: Society of Memorial Gynecologic Oncologists, Holiday Inn Union Station, Indianapolis.

For more information, call Marilyn Soltermann, CME coordinator—(317) 871-3460.

Methodist Hospital CME

July 25-29: Ultrasound Mini-Fellowship, Methodist Hospital Radiology Department.

Aug. 5-7: Immunological Obstetrics Symposium, Hyatt Regency Hotel, Indianapolis.

Sept. 23-24: Advanced Trauma Life Support Course, Methodist Hospital Auditorium.

Sept. 23-25: Fourth Annual Perinatology Symposium, Four Winds—Lake Monroe, Bloomington, Ind.

Sept. 29-30: Laser Seminar, Methodist Hospital.

Oct. 17-23: Ultrasound Mini-Fellowship, Methodist Hospital Radiology Department.

Oct. 21-22, Advanced Cardiac Life Support Course, Methodist Hospital, Wile Hall.

Nov. 2: Annual Lester Bibler Lecture, Methodist Hospital Auditorium.

Nov. 11-12: Advanced Trauma Life

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ALLAN J. HAMILTON, M.D.

Neurosurgical Resident and Research Fellow,
Massachusetts General Hospital, Boston, Massachusetts.
Captain, U.S. Army Reserve.

EDUCATION Ithaca College, B.A. (Magna Cum Laude);
Hamilton College (Pre-med); Harvard Medical School.

RESIDENCY General Surgical Internship. Neurosurgical
Residency, Massachusetts General Hospital.

CONTINUING EDUCATION Neurology and Neuro-
surgery Research Fellowship Training, National Institutes
of Health.

OUTSTANDING ACHIEVEMENTS Olsen Memorial
Fellowship, National Masonic Medical Research Foundation;
Albert Schweitzer Fellowship, International Albert Schweitzer
Foundation; Harvard Medical School Cabot Prize for Best
Senior Thesis; recently published article, "Who Shall Live
and Who Shall Die" in Newsweek Magazine.

“The work I’m doing in the Army Reserve fits perfectly with my academic research interests in civilian life. The Army is very concerned with the effects of high-altitude cerebral edema, which is a mirror model of cerebral hypoxia, something I deal with every day in our neurosurgical intensive care unit. I couldn’t ask for a smoother transition. And that’s true for a lot of Reserve physicians. All we really do is change our clothes, not our mindset.

“Some of the projects the Army is undertaking are on the cutting edge of research. For example, I’m currently involved in developing for the Army a prototype of a non-invasive intracranial pressure-monitoring device that we hope will allow us to measure pressure changes as the brain swells—without drilling holes in the skull. If we can get our design to work, such a device could revolutionize high-altitude medicine as well as civilian neurosurgical care.

“The quality of medicine and the caliber of people I’ve been associated with in the Army Reserve are, without question, equal to civilian hospitals. In fact, I’m giving serious consideration to applying for an active duty academic position in Army Medicine when my residency ends at Massachusetts General.”

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Soldier being examined for effects of high-altitude cerebral edema.

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This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K⁺ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K⁺ intake. Associated widened QRS complex or arrhythmia requires prompt additional therapy. Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia. Other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or

without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: The bioavailability of the hydrochlorothiazide component of 'Dyazide' is about 50% of the bioavailability of the single entity. Theoretically, a patient transferred from the single entities of triamterene and hydrochlorothiazide may show an increase in blood pressure or fluid retention. Similarly, it is also possible that the lesser hydrochlorothiazide bioavailability could lead to increased serum potassium levels. However, extensive clinical experience with 'Dyazide' suggests that these conditions have not been commonly observed in clinical practice. Angiotensin-converting enzyme (ACE) inhibitors can elevate serum potassium; use with caution with 'Dyazide'. Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin (ACTH)). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The

following may occur: transient elevated BUN or creatinine or both; hyperglycemia and glycosuria (diabetic insulin requirements may be altered); hyperuricemia and gout, digitalis intoxication (in hypokalemia); decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should develop; corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides; 'Dyazide' should be withdrawn before conducting tests for parathyroid function. Thiazides may add to or potentiate the action of other antihypertensive drugs. Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

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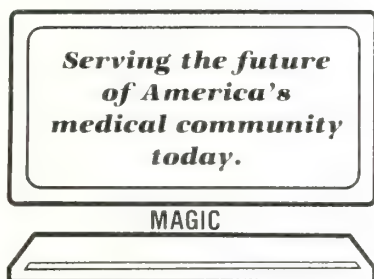
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Amyotrophic Lateral Sclerosis

ROBERT M. PASCUZZI, M.D.
Indianapolis

SINCE ITS ORIGINAL description by Jean Charcot in 1875, amyotrophic lateral sclerosis (ALS) has become one of the most fascinating and yet most feared disorders encountered in clinical neurology.¹ In ALS, the large pyramidal and Betz cells contained in the cerebral motor cortex (upper motor neurons) and those motor neurons whose cell bodies are contained in the brain stem and anterior horn of the spinal cord (lower motor neurons) progressively degenerate, resulting in a clinical course of relentlessly progressive weakness, ultimately leading to death. Amyotrophic lateral sclerosis represents just one of several different syndromes of "motor neuron disease," in which there is selective dysfunction of motor neurons in the central nervous system (*Table*).

Less common forms of motor neuron disease include progressive spinal muscular atrophy, in which there is predominant involvement of anterior horn cells of the spinal cord (lower

NOTE: This is Part I of a two-part article on amyotrophic lateral sclerosis. Part II of the article and the accompanying CME quiz will be published in the August issue.

motor neurons). Adult onset spinal muscular atrophy, originally described by Aran in 1850, is usually characterized by a course of progressive limb weakness and atrophy slower than ALS.² Motor neuron disease may be limited to the brain stem motor nuclei innervating the facial and pharyngeal musculature, referred to as progressive bulbar palsy and originally described by Duchenne in 1849.³

Primary lateral sclerosis is another variant of adult onset motor neuron disease, with selective deterioration of upper motor neurons in the motor cortex in the absence of spinal anterior horn cell and brain stem motor nuclei involvement. This uncommon disorder

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TABLE
Classification of Motor Neuron Disease

	Eponym	Features
Amyotrophic lateral sclerosis (ALS)	Lou Gehrig's disease Charcot's disease	UMN, LMN, older onset, variable progressive course (mean 2-3 years)
Progressive spinomuscular atrophy (PSMA)		
Infantile SMA	Werdnig-Hoffmann disease	LMN, recessive inheritance, rapid course
Juvenile SMA	Wohlfart-Kugelberg-Welander disease	LMN, variable inheritance, slow course (decades)
Adult SMA	Aran	LMN, slow course (years)
Progressive bulbar palsy		
Juvenile	Fazio-Londé disease	LMN, UMN (dysphagia, dysarthria)
Adult	Duchenne	LMN, UMN (dysphagia, dysarthria)
Primary lateral sclerosis		UMN, variable progressive course (years)
Focal ("benign") motor neuron disease	Sobue's disease	Monomelic, nonprogressive course

LMN = lower motor neuron
UMN = upper motor neuron

produces a pure "upper motor neuron" syndrome.

Juvenile spinal muscular atrophy (Welander-Kugelberg-Wohlfart disease) is a more benign form of motor neuron disease that progresses very slowly. It predominantly involves anterior horn cells of the spinal cord, with onset in childhood or adolescence. This condition may be inherited in an autosomal dominant or recessive fashion. Although progressive, leading many times to the need for a wheelchair, the overall course is clearly more benign than most other forms of progressive motor neuron disease.

Infantile spinal muscular atrophy (Werdnig-Hoffmann disease) is an autosomal recessive condition characterized by rapidly progressive weakness in the infant age group, usually resulting in death within the first few months to years of life.

Although many patients with apparent motor neuron disease are difficult to classify into one of the above categories, it behooves the clinician to be as accurate with the diagnosis as

possible because of the marked differences in prognosis and potential hereditary implications.

ALS-Clinical Features

ALS predominantly occurs in older individuals, with the median age of onset in the sixth and seventh decades. The incidence appears to increase with each decade of life, and men develop the disorder nearly twice as frequently as women.⁴ Overall, there is a fairly standard annual incidence worldwide of about one to two per 100,000 population. Several important exceptions to this uniform incidence will be discussed below.

Clinical features reflect the relative involvement of upper motor neurons in the cerebral motor cortex and lower motor neurons in the brain stem and anterior horn of the spinal cord. Presenting symptomatology may be referable to either group of neurons. Upper motor neuron symptoms include weakness, spasticity or stiffness, and impaired fine motor control. Dysphagia, dysarthria and dysphonia may be

due to either brainstem lower motor neuron involvement or to dysfunction of upper motor neurons descending to the brainstem. Lower motor neuron symptoms include fasciculations, weakness and muscle atrophy. Often, patients will experience muscle cramps, particularly involving the distal legs, as an early symptom.

The clinical examination may show upper motor neuron deficits in the form of spasticity, increased muscle tone, hyperactive muscle stretch reflexes, clonus and Babinski signs. Lower motor neuron involvement produces prominent muscle atrophy, fasciculations and hyporeflexia. Sensory, cerebellar and higher cortical functions are entirely normal. The most common early presentation is slowly progressive focal weakness and atrophy in distal muscles of one upper extremity. Often, there is "regional" spread of clinical weakness reflecting progressive involvement of neighboring areas of the spinal cord, occurring over subsequent months or years. Over time there is usually evolution of a combina-

tion of upper and lower motor neuron deficits involving multiple limbs and the head. Thirty percent of patients will initially present with Bulbar or cranial symptoms of dysarthria or dysphagia. Rarely, patients may present with respiratory failure.

The subsequent clinical course is always progressive but variable in duration, with a mean survival of two to three years from the onset of symptoms. However, 20% of patients live longer than five years from the onset of symptoms, with occasional well-documented cases having a 20-30-year course.⁴ Death usually results from involvement of cranial or respiratory musculature. Dysphagia with recurrent aspiration and weakness of respiratory muscles produce the most significant acute complications of the disease.

It is difficult to predict which patients will progress rapidly versus slowly. In general, elderly patients and those with prominent early involvement of cranial or respiratory muscles tend to have a more rapid progression. The marked variation in course precludes an accurate prediction in any individual patient at the time of initial diagnosis. The prognosis in an individual patient is probably best estimated by following the patient over time and judging the rate of change over a six to 12-month period. In general, the observed rate of progression is an appropriate estimate of that patient's future course.

ALS and the other forms of motor neuron disease are remarkable in sparing involvement of extraocular muscles, as well as urinary and anal sphincters. Patients with ocular muscle weakness, incontinence, urinary retention or bowel dysfunction (particularly early in their course) should be presumed to have a disorder other than ALS. Five percent to 10% of ALS patients have an involved primary relative. Some, but not all, of these "familial" cases follow dominant or recessive patterns of inheritance, suggesting a strong genetic component.

Although ALS produces neurological impairment limited to the motor system, there is an associated clinical phenomenon termed pseudobulbar palsy, a syndrome due to disease of upper motor neurons descending to the brain stem motor nuclei. In addition to dysarthria and dysphagia, these patients have a curious tendency to laugh or cry with minimal or no provocation. These patients generally do not feel subjectively happy or sad, but instead report limited control of these emotional behaviors. The emotional lability of pseudobulbar palsy contrasts with that present in frontal lobe disease, in which emotional lability is associated with the patient's expected subjective feelings.

Fasciculations represent spontaneous discharges occurring in lower motor neurons that produce electrical and mechanical activation of all muscle fibers innervated by a single anterior horn cell, apparent to the patient and clinician as a sudden, painless muscle twitch. Pathological fasciculations are most often associated with disease of anterior horn cells, but also may be seen in the presence of nerve root disease or peripheral neuropathy. Fasciculations are never produced in primary muscle disease (such as inflammatory myopathy or muscular dystrophy) and, when present in a patient with weakness, should suggest a neurogenic process. Pathological fasciculations from anterior horn cell disease tend to be multifocal in differing muscle groups of multiple extremities and tend to recur at relatively slow rates of one every three or more seconds.

In contrast with pathological fasciculations, the majority of healthy individuals will occasionally experience benign fasciculations. Benign fasciculations tend to occur focally, involve one muscle group and occur at a relatively rapid rate of about one per second. These fasciculations will spontaneously resolve after days or weeks and, in the absence of any other specific neuromuscular symptoms or clinical signs,

should not be cause for great alarm. Although most patients with ALS have fasciculations on their initial examination, they rarely complain of them. However, it is common for medical personnel, especially physicians, to seek neurological consultation when they experience fasciculations. Fortunately, such presenting symptoms usually represent benign fasciculations.

Etiology

As of this writing, the etiology of ALS remains unknown. However, several strong clues to the pathogenesis of specific forms of motor neuron disease may eventually clarify the etiology of ALS and other forms of motor neuron disease.^{5,6}

Poliomyelitis is a viral disorder with a striking predilection for involvement of anterior horn cells and brain stem motor nuclei. Years of speculation and investigation into the relationship of antecedent polio virus infection and progressive motor neuron disease have failed to show any significant association between polio virus and ALS.

There has been great interest in the late progression of old polio or "post-polio syndrome," in which patients with antecedent childhood polio who remain neurologically stable for many decades appear to develop slowly progressive weakness when reaching their 50s and 60s. There is debate over the nature of these late progressive symptoms, but at this time there is no clear evidence linking those patients with ALS.

The association of HTLV-1 with progressive spastic paraparesis has led to renewed interest in a viral etiology of selected forms of progressive motor neuron disease.^{6a}

Some slowly progressive degenerative neurological disorders are due to a transmissible agent referred to as a slow virus or prion. Creutzfeldt-Jakob disease and kuru represent such encephalopathies. These conditions tend to involve spongiform degenerative changes in a variety of central nervous system locations, particularly the

cerebral cortex, cerebellum, basal ganglia and, often, the spinal cord. There may be prominent involvement of motor neurons as well. Attempts to identify such a transmissible or infectious agent in ALS have been unsuccessful.

More recently, interest has flourished in searching for an immunologic or autoimmune factor in the pathogenesis of ALS. Several investigators have demonstrated circulating antibodies in sera from ALS patients. These react with nerve or muscle tissue. Gurney *et al.*, in 1984, detected a circulating immunoglobulin in 11 of 25 sera from ALS patients, which inhibited terminal axon sprouting in a botulinum-treated mouse muscle preparation.⁷ The immunoglobulin reacted with a 56 kilodalton protein secreted by denervated rat diaphragm muscle.

The investigators postulated that there may be an immunologic factor that limits the capacity for reinnervation to occur in ALS. Additionally, their data suggested that the 56 kilodalton protein represented a nerve "trophic factor" secreted in the face of muscle denervation that stimulated axonal sprouting. Furthermore, such a "trophic factor" might logically be the site of primary abnormality in ALS. Subsequent studies have failed to confirm these findings.⁸

Furthermore, a large variety of immunologic parameters have been shown to be normal in patients with ALS. The most discouraging data against an immunologic component are the uniform lack of clinical response to immunosuppressive therapy. Controlled trials have shown no benefit from plasmapheresis, cyclophosphamide, corticosteroids and other forms of immunosuppression.^{9,10}

The association of occasional patients with ALS and a low level of hexosaminidase A activity highlights the role of an underlying metabolic derangement selectively effecting motor neurons. Additionally, the occasional association with hyperparathyroidism and hyperthyroidism is in

support of metabolic compromise in the pathogenesis of the disease. However, no single metabolic disturbance has yet been identified in the majority of patients with ALS.

Bradley recognized the possibility of multiple etiological factors in ALS and proposed a hypothesis suggesting an underlying defect of DNA function or repair mechanisms.¹¹ Such a defect would explain the development of disease following any one of a number of different insults to motor neuron function. Appel suggested the presence of a motor neuron "trophic factor" that may be impaired in ALS.¹²

ALS May Prove To Represent a Syndrome, With More Than One Specific Etiology.

Intense investigation during the past five years has focused on the role of thyrotropin-releasing hormone (TRH) in the pathogenesis and potential therapy of ALS. TRH is a tripeptide that functions not only in the hypothalamic-pituitary-endocrine axis, but also as a ubiquitous neurotransmitter in the brain and spinal cord. An abundance of TRH and TRH receptors are present in the anterior horn of the spinal cord, the V, VII and XII motor nuclei of the brain stem, and the frontal motor cortex. King Engel and colleagues, in searching for a trophic or nutritional factor involved with motor neuron disease, observed a reduced level of TRH in the spinal fluid of some ALS patients.¹³ Also, TRH was observed to improve spasticity in cats with spinal cord injury.¹⁴

Subsequent studies of spinal fluid and spinal cord from ALS patients have produced conflicting data with some suggesting normal levels of TRH in spinal cord and spinal fluid. Nonetheless, in 1983, Engel *et al.* reported that high intravenous doses of TRH

produced moderate to marked improvement of weakness and spasticity in 12 of 17 patients with ALS.¹⁵ These exciting results led to an explosion in investigation of the therapeutic role of TRH in motor neuron disease. During the past five years, multiple controlled trials have explored the efficacy of intravenous, subcutaneous, intramuscular and intrathecal TRH administration. Overall, the results of controlled trials have been disappointing.^{15,16,17,18}

It is clear that TRH has a physiologic effect on patients, since they experience transient shivering, hypertension, hyperventilation, subjective temperature changes, nausea and urinary urgency. These side effects last for minutes, while transient improvement in power may occur and persist for hours to days. Overall, most controlled studies suggest that improvement in power is largely subjective, without significant change by objective measurements. Ongoing clinical trials modifying the route of administration of TRH or its analogs should clarify its effect on motor neuron function. The lack of significant clinical objective improvement has led to the conclusion that TRH is not indicated for the routine therapy of ALS or other motor neuron diseases.¹⁹

Environmental toxins have been emphasized as potential etiologic agents since Aran's descriptions of lead exposure in some of the original patients with spinal muscular atrophy. Although lead intoxication has been associated with a clinical picture of motor neuron disease, other heavy metals, including mercury, selenium, manganese and aluminum, also have been implicated. In spite of the longstanding interest in heavy metal toxicity, there is little direct evidence to implicate metals in the pathogenesis for the majority of patients with ALS. Furthermore, therapeutic trials using chelating agents, such as penicillamine, have been ineffective.¹⁹

Interest in environmental toxins has been stimulated by the observation of

several select geographic locations with a strikingly high incidence of motor neuron disease. Guam, the Kii peninsula in Japan and portions of Western New Guinea possess well-defined populations with a high incidence of ALS or similar motor neuron disease. Spencer and colleagues have recently studied the potential role of environmental toxins in the native Chamorro population of Guam and Rota (Mariana Islands in the western Pacific), where a high incidence of ALS has been observed.²⁰ Investigation following World War II revealed incidence rates over 30 times that of other geographic regions. Often those patients developed associated parkinsonism and dementia.

In support of an environmental factor in the etiology for ALS in these regions is the marked decline in incidence on Guam since the 1950s, corresponding to the Americanization of cultural habits following World War II. Also, intensive investigation has failed to demonstrate a significant hereditary component to explain the high incidence. Additionally, there is no clear-cut evidence to implicate a viral etiology in this region.

For the past 30 years there has been interest in the potential role of the false sago palm (*Cycas circinalis*), which possesses a toxic seed used frequently in food (flour source) and medicinal preparations in the Guam region until post-World War II Americanization. Non-processed seed was known to produce acute severe toxicity in humans. *C. circinalis* contains several neurotoxic agents, including a non-protein amino acid, beta-N-methylamino-L-alanine (L-BMAA). Spencer and colleagues have recently investigated the effect of chronic oral administration of BMAA in monkeys.²⁰ Clinically, the animals developed deficits within two to 12 weeks, involving progressive weakness and atrophy. Some animals first showed extensor hindlimb posturing, which suggested upper motor neuron dysfunction. Animals receiving smaller chronic doses developed a

clinical picture resembling parkinsonism. Histologically, degenerative changes were found in the motor neurons of the motor cortex and in anterior horn cells of the spinal cord. Therefore, BMAA in this setting appeared to induce clinical, physiological and pathological changes, predominantly involving motor neurons and, to a milder extent, the extrapyramidal system.

BMAA is pharmacologically and chemically related to another plant-derived non-protein excitotoxic amino acid, beta-N-oxalylamino-L-alanine (BOAA), which induces a relatively pure upper motor neuron disorder in primates with repeated oral administration. BOAA is thought to be the etiologic agent producing "lathyrism," a progressive spastic paraparesis occurring in humans, particularly in India. Lathyrism is presumably due to the consumption of the chickling pea (*Lathyrus sativus*). Therefore, two excitotoxic agents (BMAA and BOAA) found in the environment and utilized in the diets of several cultures clearly are associated with disease of motor neurons. Although these agents are not found in North America and their associated clinical disorders are not completely identical to sporadic ALS, the observations raise the possibility of other selective neurotoxic environmental agents.

The general public has developed a greater awareness of ALS, in part due to the occurrence of the disease in public figures, including New York Yankee baseball player Lou Gehrig, Senator Jacob Javitz and, most recently, three members of the San Francisco Forty-Niners football team. These latter individuals were teammates in the 1960s, leading to interest in the epidemiology of the disease, particularly the possibility of a common environmental factor. Although this association may be coincidental, investigation for a common pathogenic link is in progress.

Speculation on the roles of spinal

trauma and exposure to animals has resulted in little objective support for these as factors in the pathogenesis of ALS.^{21,22}

Clearly, investigation into the pathogenesis of ALS and other motor neuron diseases is expanding rapidly.^{5,23} As with other clinical conditions, ALS may prove to represent a syndrome, with more than one specific etiology.

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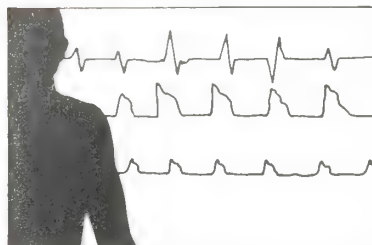
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Lung Barotrauma in the ICU



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DAVID J. POWNER, M.D.
Indianapolis

DISRUPTION OF THE pulmonary parenchyma due to increased gas pressure within the airways is termed barotrauma and may occur spontaneously, during underwater diving, after blunt trauma to the chest, during vigorous coughing and in several other circumstances. Within the ICU, barotrauma is usually caused by airway pressure changes induced by ventilatory gas during mechanical ventilation or other respiratory treatments requiring elevated airway pressure.

Occurring in from .5-18% of patients in the general ICU, lung rupture with its subsequent formation of extra-alveolar air (EAA) is influenced by factors listed in *Table 1*. Experimental data indicate that when a sufficient

TABLE 1
Factors Affecting the Cause or Extension of Extra-Alveolar Air

Extent or type of pulmonary disease—higher in ARDS and aspiration
Mode of mechanical ventilation—lower with IMV or CPAP
Type of ventilator—higher with volume-limited
Peak airway pressure
PEEP
Age—more common in younger patients
High tidal volumes and high flow rates
Hypovolemia or hypotension

TABLE 2
Consequences of Barotrauma

Interstitial emphysema
Lung cysts
Pneumomediastinum
Subcutaneous emphysema
Pneumopericardium
Pneumothorax
Pneumoretroperitoneum
Pneumoperitoneum
Broncho-pleural fistula
Air entry into the vascular space

pressure gradient between the airway and adjacent vascular and interstitial spaces occurs, tissue damage may result.¹

Gas leaving the airway lumen enters the periarteriolar and perivenular spaces and migrates along fascial planes distally toward the visceral pleura or proximally to the hilum. That migratory process may force gas into several anatomic areas producing the

sequelae listed in *Table 2*. The clinically important consequences of EAA in these regions will be discussed briefly.

Interstitial Emphysema

Gas located within the interstitium may interfere with oxygen diffusion or compress venules and arterioles and cause hypoxemia. The clinical importance of this manifestation of EAA is unknown in adults but is considered highly important in neonates. The chest radiograph may show small cystic gas collections, lucent halos around vessels seen in cross section and linear lucencies directly toward the hilum.² Distal extensions to the visceral pleura may form air-filled subpleural cysts usually found at the lung bases. These cysts may develop tension and compress adjacent lung tissue. Currently no treatment exists to remove interstitial gas.

Pneumomediastinum

Proximal gas migration propelled during coughing or normal ventilation may lead to pneumomediastinum. Usually diagnosed on chest x-ray, clinical findings include pain and Hamman's sign (a "crunching" sound heard on auscultation over the mediastinum that occurs synchronously with each cardiac systole). "Tension" pneumomediastinum has been reported in both children and adults,³ but usually any gas under pressure decompresses into other fascial planes or may escape to the pleural space to form a pneumothorax. Currently no therapy is recommended for gas in the mediastinum although historically various surgical decompression techniques were used.

Subcutaneous Emphysema

Subcutaneous gas extension is usually considered only a temporary

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cosmetic problem. However, its compression of neck veins has increased intracranial pressure and produced tension pneumocephaly in a child. Other significant manifestations include airway obstruction due to gas extension to the hypopharynx and gas accumulation in the subconjunctivae. Incisions or drains to decompress subcutaneous gas, although previously done, are not currently considered useful.

Pneumopericardium

Tension pneumopericardium producing cardiac tamponade is more frequently reported in neonates but is documented also in adults.⁴ Most often benign, however, gas within the pericardium is diagnosed radiographically, by echocardiography or by finding on physical examination increased percussion tympany or the bruit de moulin murmur (a splashing systolic cardiac murmur of variable intensity and timing depending upon the amount of pericardial gas, fluid or adhesions). Therapy by needle or catheter aspiration again is reserved for the rare manifestation of tension pneumopericardium with tamponade.

Pneumothorax

Many authors consider that pneumothorax arises from gas escape from the mediastinum rather than rupture of the visceral pleura. The consequences and therapy of pneumothorax are well known and not unique to barotrauma although tension pneumothorax may be more likely if barotrauma leads to gas collection in the pleural space.

Pneumoretroperitoneum and Pneumoperitoneum

Gas migration around the aorta and esophagus allows gas entry into the retroperitoneum while free air within the abdomen may occur from gas movement from the retroperitoneum, through the diaphragm, or from gas collections around the aortic fascia, mesenteric vessels or subserosa of the bowel.⁵ While not an infrequent manifestation of barotrauma, gas in

these areas must always lead to an appropriate evaluation of other causes of air such as ruptured viscus, infection or pneumatosis cystoides intestinalis. Thus barotrauma is always a diagnosis of exclusion for free peritoneal or retroperitoneal gas. Tension pneumoperitoneum has occurred and produced ventilatory compromise. No treatment is usually needed unless tension develops.

Broncho-pleural Fistula (bpf)

Continued gas loss from the airway through a bpf may clinically be benign or produce a life-threatening maldistribution of ventilation toward the fistulous tract and lead to severe hypoxemia and occasionally hypercarbia. The amount of gas lost depends upon peak airway pressure, PEEP, the amount of suction applied to chest tube drainage systems and other ventilation parameters. Depending upon the clinical setting, treatment of a bpf may be: (a) expectant as most close spontaneously; b) compensatory such that the tract is allowed to remain open and the ventilator is adjusted to deliver more gas to compensate for that lost through the bpf; c) active wherein techniques are applied that attempt to close the fistula or reduce gas movement through it. These methods have been reviewed elsewhere and are listed in *Table 3*.⁶

Air-Entry into the Vascular Space

Rupture of lung parenchyma may allow gas to enter small blood vessels injured during barotrauma. Gas migration antegrade in pulmonary venules may lead to arterial emboli, and its retrograde flow into the right ventricle may lead to the "air lock" syndrome and death. These consequences are well recorded in experimental studies. They have not been reported in any human series of ICU barotrauma but are documented in underwater diving accidents that produce lung rupture.

Many consequences, therefore, of lung rupture due to gas pressure within the lung may occur. The physi-

cian caring for patients receiving mechanical ventilation must be aware of these and the potential morbidity and mortality of each.

TABLE 3
Methods to Actively Reduce Flow Via a BPF

Surgical closure
Minimize peak inspiratory, expiratory or mean airway pressures
Avoid inspiratory plateau or reverse I:E ratio ventilatory techniques
High frequency ventilation methods
Increased or decreased chest tube suction
Obstruction of the airway leading to the bpf with balloons, tissue glue, cautery, weights, radium implants or CO₂ laser
Equalize airway pressure across the bpf using PEEP on or inspiratory occlusion of the chest tube

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CT Findings in Coexistent Paget's Disease and Multiple Myeloma

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MALIGNANT CHANGE is a well-documented complication of Paget's disease of bone. Greenfield refers to this phenomenon as the "4th stage" of Paget's disease.¹ The most prevalent form of malignant degeneration is the development of osteogenic sarcoma. Also recognized as complications are fibrosarcoma, chondrosarcoma and reticulosarcoma. Greenfield lists myeloma as a "coincidental lesion" in the differential diagnosis of radiolucent areas in Paget's disease.¹

According to Wong and his associates, this coincidental lesion of multiple myeloma in Paget's disease has been documented 43 times in the world literature.² Rosenkrantz and Gluckman reviewed almost 3 million hospital admissions and discovered the incidence of this coexistence to be between one in 500,000 and 1,000,000.³ To date there has been no convincing evidence that the coexistence is anything more than fortuitous.³ Grader

Abstract

The first case of coexistent Paget's disease of bone and multiple myeloma studied by computed tomography is presented. Computed tomography appears to be a superior imaging modality to the follow-up of Paget's disease and other coexisting malignant diseases.

mated because of undiagnosed Paget's disease of bone."²

The controversy about whether or not myeloma is a complication of Paget's disease of bone will continue until a well-designed study is able to demonstrate an association. The following presents the first case of the coexistent diseases studied with computed tomography.

Case Report

A 76-year-old white man was admitted to this institution Aug. 8, 1979, complaining of right hip and knee pain. His pain had persisted during the previous 10 years. The patient had a known history of Paget's disease of bone which was first recognized in the early 1970s (*Figure 1*). Upon admission the patient was able, with the use of a cane,

and Moynihan, however, suggest that the "coexistence may be more than a matter of chance alone" and recommend that patients with Paget's disease who show unusual bone changes be evaluated for multiple myeloma.⁴ Others suggest that the "prevalence of Paget's disease in patients with myeloma may be underesti-



FIGURE 1: Anterior-posterior view of pelvis showing increased trabeculation and thickening of the right hemipelvis typical of Paget's disease, 1977.

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to walk one to two blocks. His past medical history was remarkable only for hypertension and kidney stones. Radiographs demonstrated extensive Paget's disease, joint space obliteration and mild protrusio acetabuli of the right hip and hemipelvis. His left hip and hemipelvis were normal. He underwent a right total hip arthroplasty on Aug. 15, 1979.

The patient did well until September 1982 when he began to develop back pain. Radiographs revealed a compression fracture of T-12. Further evaluation by serum protein electrophoresis showed that the patient had multiple myeloma. Chemotherapy was begun and continued until July 1984. With the cessation of chemotherapy, the patient's back pain began to increase.

Oct. 1, 1984, the patient was again admitted to this institution complaining chiefly of back pain and inability to stand. Physical examination was remarkable for a decreased left ankle jerk, but his lower extremity sensation was normal bilaterally. Admission lumbar spine radiographs demonstrated Pagetoid changes in the L-2 vertebral body and a compression fracture of T-12.

While hospitalized the patient experienced new onset of numbness of his legs. His sensation below the knees became markedly diminished bilaterally, and his toes turned upward. A lumbar myelogram showed a complete block at T-12. Radionuclide bone scan revealed abnormal accumulation in the left clavicle at the sternal end and increased activity in T-12 and L-2. Marked increase activity was present in the right hemipelvis. These findings were thought to be most consistent with Paget's disease.

Oct. 3, 1984, the patient underwent a decompressive laminectomy. During surgery his left lateral gutter at T-12 was found to have extensive tumor involvement. The tumor was pushing

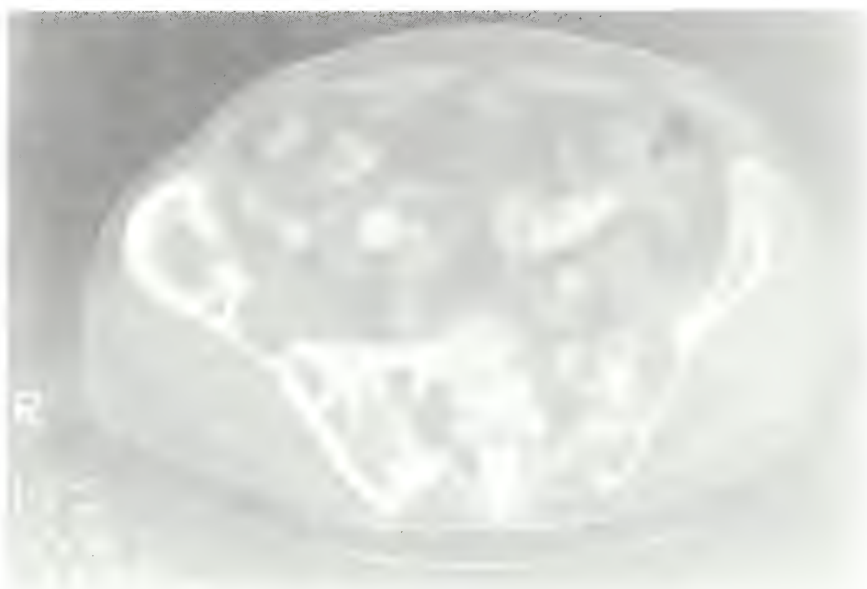


FIGURE 2: CT through the ilium at S-1 level demonstrates myelomatous masses with destruction of the bony cortex and invasion of the medullary cavity, 1985.

the dural sac toward the patient's right side. Pathology of the tumor was that of plasmacytoma. Postoperatively the patient regained the use of his legs and was able to walk.

The patient did well until July 1, 1985, when he was admitted to the hospital complaining of increasing right flank pain. Computerized tomography of the retroperitoneum with contrast showed a mass in the pelvis with destruction of the right ilium and extension into the iliopsoas muscle (Figure 2). There were also multiple areas of bony destruction in the ilium and sacrum at the level of the sacroiliac junction. The left iliopsoas muscle was likewise involved with neoplasm. The tumor was extending into the spinal canal posteriorly and into the retrocrural space on the right anterolateral margin of the vertebral body. These findings are consistent with recurrence of plasmacytoma. The patient then was referred for radiation therapy to the involved region.

Summary

The first case of coexisting Paget's disease and multiple myeloma studied with computerized tomography is reported. It appears that CT is the study of choice in the follow-up of patients being treated with both diseases due to its ability to differentiate areas of myelomatous tissue from Pagetoid tissue in the axial plane and the ability to resolve soft tissue involvement not reported previously by any other method.

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Carcinogenesis, Mutagenesis, Impairment of Fertility: A two-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect. There was a dose-related increase in the density of enterochromaffin-like (ECL) cells in the gastric oxyntic mucosa. In a two-year study in mice, there was no evidence of a carcinogenic effect in male mice, although hyperplastic nodules of the liver were increased in the high dose males compared to placebo. Female mice given the high dose of Axid (2,000 mg/kg/day about 330 times the human dose) showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no numerical increase seen in any of the other dose groups. The rate of hepatic carcinoma in the high dose animals was within the historical control limits seen for the strain of mice used. The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrement

compared to concurrent controls, and evidence of mild liver injury (transaminase elevations). The occurrence of a marginal finding at high dose only in animals given an excessive and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 360 mg/kg/day about 60 times the human dose) and a negative mutagenicity battery is not considered evidence of a carcinogenic potential for Axid.

Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, and the mouse lymphoma assay.

In a two-generation, perinatal and postnatal fertility study in rats, doses of nizatidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny.

Pregnancy—Teratogenic Effects—Pregnancy Category C:—Oral reproduction studies in rats at doses up to 300 times the human dose, and in Dutch Belled rabbits at doses up to 55 times the human dose, revealed no evidence of impaired fertility or teratogenic effect, but at a dose equivalent to 300 times the human dose, treated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights. On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac enlargement, coarctation of the aortic arch, and cutaneous edema in one fetus and at 50 mg/kg it produced ventricular anomaly, distended abdomen, spina bifida, hydrocephaly, and enlarged heart in one fetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Nizatidine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers:—Nizatidine is secreted and concentrated in the milk of lactating rats. Pups reared by treated lactating rats had depressed growth rates. Although no studies have been conducted in lactating women, nizatidine is assumed to be secreted in human milk and caution should be exercised when nizatidine is administered to nursing mothers.

Pediatric Use:—Safety and effectiveness in children have not been established. Use in Elderly Patients—Ulcer healing rates in elderly patients are similar to those in younger age groups. The incidence rates of adverse events and laboratory test abnormalities are also similar to those seen in other age groups. Age alone may not be an important factor in the disposition of nizatidine. Elderly patients may have reduced renal function.

Adverse Reactions: Clinical trials of nizatidine included almost 5,000 patients given nizatidine in studies of varying durations. Domestic placebo-controlled trials included over 1,900 patients given nizatidine and over 1,300 given placebo. Among the more common adverse events in the domestic placebo-controlled trials, sweating (11% vs 0.2%), urticaria (0.5% vs 0.01%), and somnolence (2.4% vs 1.3%) were significantly more common in the nizatidine group. A variety of less common events was also reported; it was not possible to

determine whether these were caused by nizatidine.

Hepatic:—Hepatocellular injury evidenced by elevated liver enzyme tests (SGOT [AST], SGPT [ALT], or alkaline phosphatase), occurred in some patients possibly or probably related to nizatidine. In some cases, there was marked elevation of SGOT, SGPT enzymes (greater than 500 IU/L), and in a single instance, SGPT was greater than 2,000 IU/L. The overall rate of occurrences of elevated liver enzymes and elevations to three times the upper limit of normal, however, did not significantly differ from the rate of liver enzyme abnormalities in placebo-treated patients. All abnormalities were reversible after discontinuation of Axid.

Cardiovascular:—In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in two individuals administered Axid and in three untreated subjects.

Endocrine:—Clinical pharmacology studies and controlled clinical trials showed no evidence of androgenic activity due to Axid. Impotence and decreased libido were reported with equal frequency by patients who received Axid and by those given placebo. Rare reports of gynecomastia occurred.

Hematologic:—Fatal thrombocytopenia was reported in a patient who was treated with Axid and another H₂-receptor antagonist. On previous occasions, this patient had experienced thrombocytopenia while taking other drugs.

Integumental:—Sweating and urticaria were reported significantly more frequently in nizatidine than in placebo patients. Rash and exfoliative dermatitis were also reported.

Other:—Hyperuricemia unassociated with gout or nephrolithiasis was reported.

Overdosage: There is little clinical experience with overdosage of Axid in humans. If overdosage occurs, use of activated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy. Renal dialysis for four to six hours increased plasma clearance by approximately 84%.

Test animals that received large doses of nizatidine have exhibited cholinergic-type effects, including lacrimation, salivation, emesis, miosis, and diarrhea. Single oral doses of 800 mg/kg in dogs and of 1,200 mg/kg in monkeys were not lethal. Intravenous LD₅₀ values in the rat and mouse were 301 mg/kg and 232 mg/kg, respectively.

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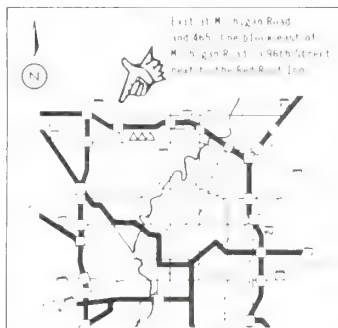
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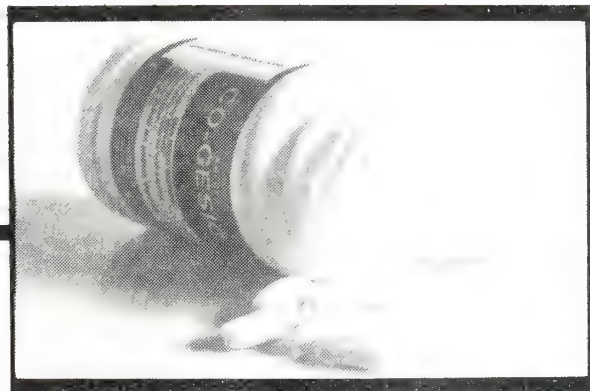
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1. For therapeutic use in patients with hypokalemia with or without metabolic alkalosis, in digitalis intoxication and in patients with hypokalemic familial periodic paralysis.
2. For the prevention of potassium depletion when the dietary intake is inadequate in the following conditions: Patients receiving digitalis and diuretics for congestive heart failure, hepatic cirrhosis with ascites, states of aldosterone excess with normal renal function, potassium-losing nephropathy, and with certain diarrheal states.
3. The use of potassium salts in patients receiving diuretics for uncomplicated essential hypertension is often unnecessary when such patients have a normal dietary pattern. Serum potassium should be checked periodically, however, and if hypokalemia occurs, dietary supplementation with potassium-containing foods may be adequate to control milder cases. In more severe cases supplementation with potassium salts may be indicated.

CONTRAINDICATIONS: Potassium supplements are contraindicated in patients with hyperkalemia since a further increase in serum potassium concentration in such patients can produce cardiac arrest. Hyperkalemia may complicate any of the following conditions: Chronic renal failure, systemic acidosis such as diabetic acidosis, acute dehydration, extensive tissue breakdown as in severe burns, adrenal insufficiency, or the administration of a potassium-sparing diuretic (e.g., spironolactone, triamterene).

Wax-matrix potassium chloride preparations have produced esophageal ulceration in certain cardiac patients with esophageal compression due to enlarged left atrium.

All solid dosage forms of potassium chloride supplements are contraindicated in any patient in whom there is cause for arrest or delay in tablet passage through the gastrointestinal tract. In these instances, potassium supplementation should be with a liquid preparation.

WARNINGS: Hyperkalemia—In patients with impaired mechanisms for excreting potassium, the administration of potassium salts can produce hyperkalemia and cardiac arrest. This occurs most commonly in patients given potassium by the intravenous route but may also occur in patients given potassium orally. Potentially fatal hyperkalemia can develop rapidly and be asymptomatic. The use of potassium salts in patients with chronic renal disease, or any other condition which impairs potassium excretion, requires particularly careful monitoring of the serum potassium concentration and appropriate dosage adjustment.

Interaction with Potassium-Sparing Diuretics—Hypokalemia should not be treated by the concomitant administration of potassium salts and a potassium-sparing diuretic (e.g., spironolactone or triamterene) since the simultaneous administration of these agents can produce severe hyperkalemia.

Gastrointestinal Lesions—Potassium chloride tablets have produced stenotic and/or ulcerative lesions of the small bowel and deaths. These lesions are caused by a high localized concentration of potassium ion in the region of a rapidly dissolving tablet, which injures the bowel wall and thereby produces obstruction, hemorrhage or perforation.

K-DUR tablets contain micro-crystalloids which disperse upon disintegration of the tablet. These micro-crystalloids are formulated to provide a controlled release of potassium chloride. The dispersibility of the micro-crystalloids and the controlled release of ions from them are intended to minimize the possibility of a high local concentration near the gastrointestinal mucosa and the ability of the KCl to cause stenosis or ulceration. Other means of accomplishing this (e.g., incorporation of potassium chloride into a wax matrix) have reduced the frequency of such lesions to less than one per 100,000 patient years (compared to 40–50 per 100,000 patient years with enteric-coated potassium chloride) but have not eliminated them. The frequency of GI lesions with K-DUR tablets is, at present, unknown. K-DUR tablets should be discontinued immediately and the possibility of bowel obstruction or perforation considered if severe vomiting, abdominal pain, distention, or gastrointestinal bleeding occurs.

Metabolic Acidosis—Hypokalemia in patients with metabolic acidosis should be treated with an alkalinizing potassium salt such as potassium bicarbonate, potassium citrate, potassium acetate, or potassium gluconate.

PRECAUTIONS: The diagnosis of potassium depletion is ordinarily made by demonstrating hypokalemia in a patient with a clinical history suggesting some cause for potassium depletion. In interpreting the serum potassium level, the physician should bear in mind that acute alkalosis per se can produce hypokalemia in the absence of a deficit in total body potassium while acute acidosis per se can increase the serum potassium concentration into the normal range even in the presence of a reduced total body potassium. The treatment of potassium depletion, particularly in the presence of cardiac disease, renal disease, or acidosis requires careful attention to acid-base balance and appropriate monitoring of serum electrolytes, the electrocardiogram, and the clinical status of the patient.

Laboratory Tests: Regular serum potassium determinations are recommended. In addition, during the treatment of potassium depletion, careful attention should be paid to acid-base balance, other serum electrolyte levels, the electrocardiogram, and the clinical status of the patient, particularly in the presence of cardiac disease, renal disease, or acidosis.

Drug Interactions: Potassium-sparing diuretics (see **WARNINGS: Carcinogenesis, Mutagenesis, Impairment of Fertility**): Long-term carcinogenicity studies in animals have not been performed.

Pregnancy Category C: Animal reproduction studies have not been conducted with K-DUR. It is also not known whether K-DUR can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. K-DUR should be given to a pregnant woman only if clearly needed.

Nursing Mothers: The normal potassium ion content of human milk is about 13 mEq per liter. Since oral potassium becomes part of the body potassium pool, so long as body potassium is not excessive, the contribution of potassium chloride supplementation should have little or no effect on the level in human milk.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS: One of the most severe adverse effects is hyperkalemia (see **CONTRAINDICATIONS, WARNINGS, and OVERDOSAGE**). There have also been reports of upper and lower gastrointestinal conditions including obstruction, bleeding, ulceration, and perforation (see **CONTRAINDICATIONS and WARNINGS**), other factors known to be associated with such conditions were present in many of

The most common adverse reactions to oral potassium salts are nausea, vomiting, abdominal discomfort, and diarrhea. These symptoms are due to irritation of the gastrointestinal tract and are best managed by taking the dose with meals or reducing the dose.

OVERDOSAGE: The administration of oral potassium salts to persons with normal excretory mechanisms for potassium rarely causes serious hyperkalemia. However, if excretory mechanisms are impaired or if potassium is administered too rapidly intravenously, potentially fatal hyperkalemia can result (see **CONTRAINDICATIONS and WARNINGS**). It is important to recognize that hyperkalemia is usually asymptomatic and may be manifested only by an increased serum potassium concentration and characteristic electrocardiograph changes (peaking of T waves, loss of P waves, depression of S-T segment, and prolongation of the QT interval). Late manifestations include muscle paralysis and cardiovascular collapse from cardiac arrest.

- Treatment measures for hyperkalemia include the following:
1. Elimination of foods and medications containing potassium and of potassium-sparing diuretics.
 2. Intravenous administration of 300 to 500 mEq of 10% dextrose solution containing 10–20 units of insulin per 1,000 ml.
 3. Correction of acidosis, if present, with intravenous sodium bicarbonate.
 4. Use of exchange resins, hemodialysis, or peritoneal dialysis.
- In treating hyperkalemia, it should be recalled that in patients who have been stabilized on dialysis, too rapid a lowering of the serum potassium concentration can produce digitalis toxicity.

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RADIOLOGY CLINIC

SECTION EDITOR:
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16-Year-Old Boy with Weight Loss and Abdominal Mass

A 16-YEAR-OLD white boy presented with a four-month history of intermittent right lower quadrant pain, low grade fever and 35-pound weight loss. One month before admission he experienced melena, requiring transfusion of 4 units of packed red cells. A small bowel series (Figure 1) and abdominal CT

RYO EUN CHOI, M.D.¹
KENYON K. KOPECKY, M.D.¹
STEVEN A. CLARK, M.D.²

scan (Figure 2) were obtained. He was treated with Azulfidine for one month for suspected Crohn's disease with no improvement. Upon admission, physical examination revealed a palpable right lower quadrant mass.

The small bowel series shows a large soft tissue mass in the right lower quadrant that involves the distal ileum. There is a large central barium contain-

ing ulcer cavity (arrows), and there is displacement of surrounding small bowel loops. Earlier films in the series showed that the sigmoid colon filled with contrast, prior to filling of the ascending colon, via a fistula from the ulcerated ileal mass. The CT scan reveals a large soft tissue mass (arrows) with a central cavity that contains air and contrast material that was orally ingested. What is your diagnosis?

The radiographic appearance of a large mass involving small bowel, displacing bowel loops, with a large ulcer cavity, with fistulas is typical of



FIGURE 1

Patient's Radiographs on Admission:

What Is the Patient's Problem?

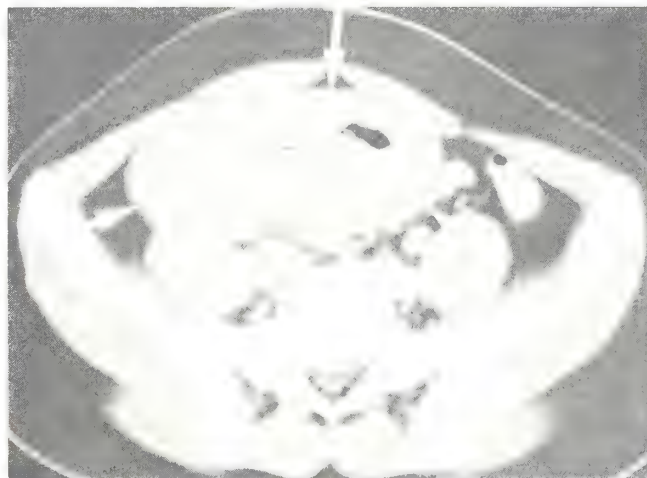


FIGURE 2

¹Dr. Choi and Dr. Kopecky are with the Department of Radiology, Indiana University School of Medicine, Indianapolis.

²Dr. Clark is with the Department of Pathology, Indiana University School of Medicine, Indianapolis.

RADIOLOGY CLINIC

primary lymphoma. Sarcoma or carcinoma can, less commonly, have this appearance. Crohn's disease usually does not have such a large, ulcerated soft tissue mass; however, it may occasionally mimic lymphoma both clinically and radiographically, and therefore should be considered in the differential diagnosis.^{1,2,3} Pertinent negative information provided by CT in this patient included a normal appearing liver and spleen and absence of adenopathy.

Percutaneous fine needle biopsy revealed high grade B-cell lymphoma, Burkitt's type. Flow cytometry showed the neoplastic cells to have a monoclonal IgM kappa surface immunoglobulin. The patient received four courses of CHOP/methotrexate plus prophylactic intrathecal chemotherapy. CT examination four months later revealed a 2x2x3 cm residual mass involving the ileum. This small mass was resected, and a right hemicolectomy was performed. Histologic examination revealed fibrohistiocytic reaction. No tumor was present.

Less than 5% of all gastrointestinal malignancies arise in the small bowel. Primary lymphoma represents the minority of the small bowel malignancies, with adenocarcinoma, carcinoid and sarcomas being more common in most series when all age groups are in-

cluded. The most common site of origin of primary lymphoma is the ileum. There is a bimodal age distribution with increased incidence in childhood and after 50 years. The lymphomas arise in the submucosal lymphoid tissue, and most are large (>5 cm) at the time of diagnosis.

Clinically, the symptoms are due to the presence of a mass that may be ulcerated or obstructing. Pain is common and may be associated with nausea, vomiting and weight loss. Intestinal hemorrhage is frequent and usually chronic. Fever may be present. Physical examination frequently reveals a palpable mass.^{4,5}

In many cases the diagnosis may be made radiographically. The findings on barium studies (small bowel series or enteroclysis), discussed above, are most helpful. CT scans can delineate the extent of the mass, detect mesenteric or retroperitoneal adenopathy and evaluate hepatic and splenic involvement.^{3,4} Tissue diagnosis may be established by CT- or ultrasound-guided fine needle aspiration biopsy. Light microscopy, electron microscopy and immunologic techniques are employed to establish a specific diagnosis.⁴ Most primary small bowel lymphomas are of the B-cell type.⁶

The principal treatment of primary

non-Hodgkin's lymphoma of the small intestine is chemotherapy. Surgery is used adjunctively. Before the 1970s the overall survival rate of children with the disease was poor. Today, with combination chemotherapy, most children are cured.⁶

Final Diagnosis: Burkitt's lymphoma of the ileum.

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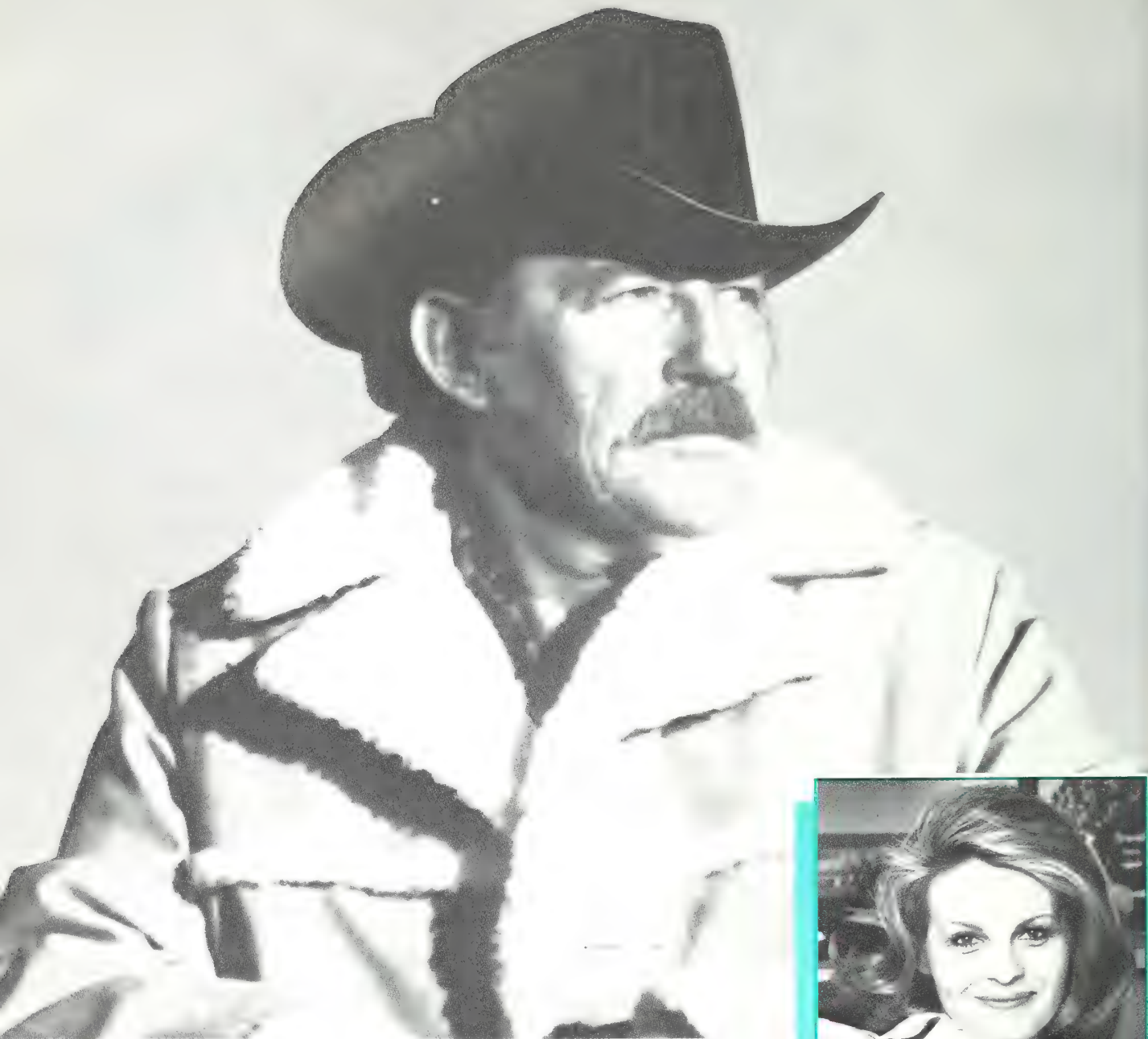
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Systemic absorption of topical corticosteroids has produced reversible HPA suppression manifestations of Cushing's syndrome, hyperglycemia and glucosuria in some patients. Pediatric patients may demonstrate a greater susceptibility.

Reference: 1. Adams RM, Mallick HI, Clendenning WE, et al: A five-year study of cosmetic reactions. *J Am Acad Dermatol* 1985;13(6):1062-1069.



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INDICATIONS AND USAGE: For the treatment of cutaneous candidiasis, it has been demonstrated that the nystatin-steroid combination provides greater benefit than the nystatin component alone during the first few days of treatment.

CONTRAINDICATIONS: This preparation is contraindicated in those patients with a history of hypersensitivity to any of its components.

PRECAUTIONS: General: Systemic absorption of topical corticosteroids has produced reversible hypothalamic-pituitary-adrenal (HPA) axis suppression, manifestations of Cushing's syndrome, hyperglycemia, and glucosuria in some patients. Conditions which augment systemic absorption include the application of the more potent steroids, use over large surface areas, prolonged use, and the addition of occlusive dressings (see DOSAGE AND ADMINISTRATION). Therefore, patients receiving a large dose of any potent topical steroid applied to a large surface area should be evaluated periodically for evidence of HPA axis suppression by using the urinary free cortisol and ACTH stimulation tests, and for impairment of thermal homeostasis. If HPA axis suppression or elevation of the body temperature occurs, an attempt should be made to withdraw the drug, to reduce the frequency of application, or to substitute a less potent steroid. Recovery of HPA axis function and thermal homeostasis are generally prompt and complete upon discontinuation of the drug. Infrequently, signs and symptoms of steroid withdrawal may occur, requiring supplemental systemic corticosteroids. Children may absorb proportionally larger amounts of topical corticosteroids and thus be more susceptible to systemic toxicity (see PRECAUTIONS, Pediatric Use). If irritation or hypersensitivity develops with the combination nystatin and triamcinolone acetronide, treatment should be discontinued and appropriate therapy instituted.

Information for the Patient: Patients using this medicine should receive the following information and instructions:

1. This medication is to be used as directed by the physician. It is for external use only. Avoid contact with the eyes.
2. Patients should be advised not to use this medication for any disorder other than for which it was prescribed.
3. The treated skin area should not be bandaged or otherwise covered or wrapped as to be occluded (see DOSAGE AND ADMINISTRATION).
4. Patients should report any signs of local adverse reactions.
5. When using this medication in the inguinal area, patients should be advised to apply cream sparingly and to wear loose fitting clothing.
6. Parents of pediatric patients should be advised not to use tight-fitting diapers or plastic pants on a child being treated in the diaper area, as these garments may constitute occlusive dressings.
7. Patients should be advised on preventive measures to avoid reinfection.

Laboratory Tests: If there is a lack of therapeutic response, appropriate microbiological studies (e.g., KOH smears and/or cultures) should be repeated to confirm the diagnosis and rule out other pathogens, before instituting another course of therapy. The following tests may be helpful in evaluating hypothalamic-pituitary-adrenal (HPA) axis suppression due to the corticosteroid: Urinary free cortisol test, ACTH stimulation test.

Carcinogenesis, Mutagenesis, and Impairment of Fertility: Long-term animal studies have not been performed to evaluate the carcinogenic or mutagenic potential or possible impairment of fertility in males or females.

Pregnancy Category C: There are no teratogenic studies with combined nystatin and triamcinolone acetronide. Corticosteroids are generally teratogenic in laboratory animals when administered systemically at relatively low dosage levels. The more potent corticosteroids have been shown to be teratogenic after dermal application in laboratory animals. Therefore, any topical corticosteroid preparation should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus. Topical preparations containing corticosteroids should not be used extensively on pregnant patients, in large amounts, or for prolonged periods of time.

Nursing Mothers: It is not known whether any component of this preparation is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised during use of this preparation by a nursing woman.

Pediatric Use: In clinical studies of a limited number of pediatric patients ranging in age from 2 months through twelve years, Nystatin-Triamcinolone Acetronide Cream cleared or significantly ameliorated the disease state in most patients. Pediatric patients may demonstrate greater susceptibility to topical corticosteroid-induced hypothalamic-pituitary-adrenal (HPA) axis suppression and Cushing's syndrome than mature patients because of a larger skin surface area to body weight ratio. HPA axis suppression, Cushing's syndrome, and intracranial hypertension have been reported in children receiving topical corticosteroids. Manifestations of adrenal suppression in children include linear growth retardation, delayed weight gain, low plasma cortisol levels, and absence of response to ACTH stimulation. Manifestations of intracranial hypertension include bulging fontanelles, headaches and bilateral papilledema. Administration of topical corticosteroids to children should be limited to the least amount compatible with an effective therapeutic regimen. Chronic corticosteroid therapy may interfere with the growth and development of children.

ADVERSE REACTIONS: A single case (approximately one percent of patients studied) of acneiform eruption occurred with the use of combined nystatin and triamcinolone acetronide in clinical studies.

Nystatin is virtually nontoxic and nonsensitizing and is well tolerated by all age groups, even during prolonged use. Rarely, irritation may occur.

The following local adverse reactions are reported infrequently with topical corticosteroids. These reactions are listed in an approximate decreasing order of occurrence: burning, itching, irritation, dryness, folliculitis, hypertrichosis, acneiform eruptions, hypopigmentation, perioral dermatitis, allergic contact dermatitis, maceration of the skin, secondary infection, skin atrophy, striae and miliaria.

DOSAGE AND ADMINISTRATION: Cream: Apply MYTREX[®] (Nystatin-Triamcinolone Acetronide) Cream, USP to the affected area twice daily in the morning and the evening by gently and thoroughly massaging the preparation into the skin. Ointment: A thin film of MYTREX[®] is usually applied to the affected area twice daily in the morning and evening. MY REX[®] should be discontinued if symptoms persist after 25 days of therapy (See "PRECAUTIONS, Laboratory Tests"). MYTREX[®] should not be used with occlusive dressings.

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FUTURE FILE ...

CONTINUED FROM PAGE 602

Support Course, Methodist Hospital Auditorium.

Nov. 16: Ethics Symposium, Hyatt Regency Hotel, Indianapolis, co-sponsored by St. Vincent Hospital.

For more information, contact Dixie Estridge, CME coordinator, Graduate Medical Center, Methodist Hospital of Indiana—(317) 929-3733.

Pediatric Emergencies

"Acute Pediatric Emergencies" is the focus of the 16th annual fall Pediatric Surgery/Pediatrics Symposium sponsored by the Indiana University School of Medicine. The event will be held Oct. 12 and 13 at the Lincoln Hotel and University Conference Center in Indianapolis.

Guest speakers include Dr. Marc I. Rowe, Surgeon-in-Chief, Children's Hospital, Pittsburgh, Pa.; Dr. William P. Tunell, Chief, Section of Pediatric Surgery, Oklahoma Children's Memorial Hospital, Oklahoma City; and Dr. Arnold G. Coran, head, Section of Pediatric Surgery, C.S. Mott Children's Hospital, Ann Arbor, Mich.

For information, contact Dr. Jay L. Grosfeld, Symposium Director, Surgeon-in-Chief, Riley Hospital, 702 Barnhill Drive, Indianapolis, 46223—(317) 274-4681, or Registrar, Division of Continuing Medical Education, Indianapolis 46223-(317) 274-8353.

Laser Use

"Laser Use and Safety Issues" is the title of a CME meeting to be held Aug. 25 and 26 at the University of Wisconsin Hospital and Clinics in Madison.

For information, contact Cathy Means, 2715 Marshall Court, Madison, Wis. 53705—(608) 263-6637.

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Ultrafast (Cine) CT Scanner— New Frontier in CT Scanning?

JEFFREY E. VAN HOVE, M.D.¹

EUGENE VAN HOVE, M.D.²

LARRY HECK, M.D.³

GONZALO T. CHUA, M.D.⁴

Indianapolis

SINCE THE COMMERCIAL introduction of computed axial tomography in 1972, there has been progressive improvement in the images produced. The improved resolution has mirrored the advances in computer technology. As processors could more efficiently handle large amounts of data and data storage improved, resolution and, to a lesser extent, the speed of acquiring images have improved. Despite these advances in technology, the actual scanner has remained essentially unchanged.

Briefly, a series of x-ray tubes and detectors rotate around the patient, acquiring data at each level scanned. The data are then manipulated, and an image is reconstructed for that level. The limiting event has become data acquisition and not data manipulation. Recently a new scanner was developed by Imatron that is radically different in design. Scan time is dramatically

Abstract

There has been rapid improvement in computerized tomography in recent years with increased resolution and better image quality. However, scanning speed has not changed as drama-

tically. Recently a new CT scanner was developed by Imatron, incorporating new technology that radically decreases scanning time. This article will look briefly at new applications using the Ultrafast CT scanner.

reduced without significant loss of resolution. Clinical efficacy must be evaluated to determine whether the new Ultrafast CT scanner is a significant advance in computerized tomographic technique.

In the traditional CT scanner, the rotating x-ray tube and detector system limit scan time. The x-ray tube and detectors must be rotated around the patient. Not only must the inertia of the stationary system be overcome,

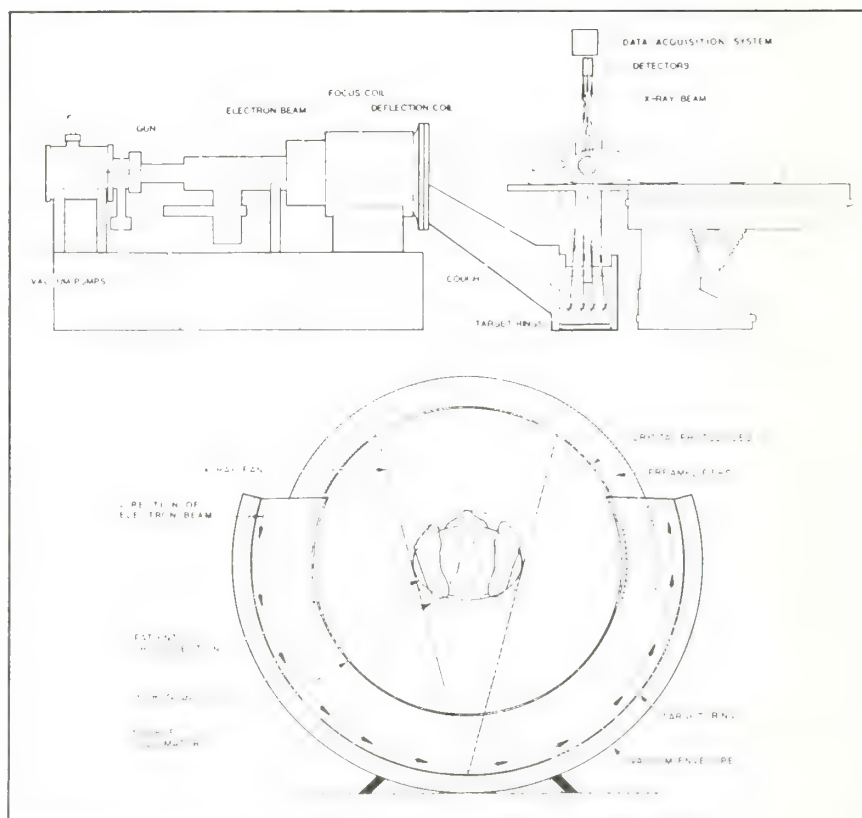


FIGURE 1: Longitudinal view (top) and cross-sectional view (bottom) using Imatron C-100 Cine-CT Scanner.

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but there are mechanical limitations to how fast these can rotate. Second, the x-ray tubes used in CT scanners are no different than those used in standard x-ray machines. Heat is generated, and there is a time limit before they overheat. Scan time is therefore only a fraction of the entire examination. Third, the table must move the patient to the next level before scanning each level.

The Ultrafast CT scanner replaces the x-ray tube and detector combination with a new system. First an electron gun is used to continually shoot electrons towards the gantry. An electromagnetic field directs the electrons towards a series of four concentric tungsten target rings. Two arrays of detectors are placed opposite the tungsten rings (*Figure 1*). There are no tubes to overheat and no moving parts other than the table top. Eight scan slices can be obtained in 50 ms or a high resolution scan in 100 ms. With three-second reconstruction time, an examination can be completed in a fraction of the time required with a traditional scanner.

As a result of the fast scan times, the Ultrafast CT scanner is ideally suited for several different applications, including cardiac scanning (*Figure 2*). Cardiac imaging with standard CT is less than satisfactory due to considerable motion artifacts because of the slow scan times. Only large cardiac masses are routinely identified. Even without EKG gating, 50 ms scans are able to produce images unblemished by motion artifacts. In addition, the table can pivot within the gantry to provide tomograms in both the long and short axis of the heart. Immediate applications of cardiac ultrafast imaging include the evaluation of coronary artery bypass graft patency (*Figure 3*), valvular heart disease, congenital heart disease (*Figure 4*), and regional and global blood flow both at rest and exercise. Additionally, infarct size can be estimated and the pericardium and pericardial space examined.¹⁻⁵

SCANNER MODE	TYPE OF SCAN		SCAN FEATURES	EXAMPLES
	High Resolution (100 msec)	Dynamic (50 msec)		
CONTINUOUS MODE			FUNCTION STUDY 17 scans/sec Acquired in rapid sequence	Valve motion Ventricular volumes Ejection fraction Wall motion Cardiac wall thickening Orthopedic joint motion Respiratory airway
			9 scans/sec Acquired in rapid sequence	
TRIGGERED MODE			FLOW STUDY Cardiac P-wave or Timed trigger	Myocardial perfusion Coronary arteries Carotid arteries Cardiac output Valvular regurgitation Arterial grafts and shunts Blood flow in liver, kidneys, and brain Aortic dissection
SMALL VOLUME MODE			Small Volume 8 slices cover 8 cm Contiguous 6- or 4-mm slices with	Myocardial infarct sizing Aneurysm Myocardial mass Pericardial disease Chest Pulmonary nodules Trauma studies
				

FIGURE 2: Clinical application of the Imatron C-100 Cine-CT scanner.

Unlike echocardiography or radionuclide ventriculography, CT can actually measure chamber volumes rather than estimate them. Thus CT-calculated left ventricular ejection fractions are very accurate. However, CT evaluation of left ventricular function requires a bolus of iodinated contrast injected through a power injector through a large bore intravenous line. Time-density curves are then generated and various data calculated.^{9,14} While this method is accurate, it is probably not the method of choice for routine evaluation of left ventricular function. Since radionuclide ventriculography is quick, relatively inexpensive and reproducible, it is probably the procedure of choice for routine studies.

Coronary angiography is currently the accepted modality to evaluate the patency of coronary artery bypass grafts, valvular heart diseases and congenital heart diseases. This is an in-

vasive procedure and has a significant morbidity and mortality. These conditions can be easily studied using the Ultrafast CT without the risk of taking the patient to cardiac catheterization. However, the recurrent resolution of the Ultrafast CT is not great enough to completely map out the coronary circulation. Evaluation of native coronary arteries must therefore be made at cardiac catheterization. Similar to the procedure used to measure left ventricular function, a large bore intravenous line is required for bolus injection of contrast material. In all but the largest of hearts, the entire heart can be imaged in eight "cuts" without moving the table top. Alternatively, sequential images at the same level can be obtained and "played back" in an endless loop fashion.

Time-density curves over the areas of interest—vein grafts, cardiac chambers or the great vessels—can be generated. This helps to evaluate the

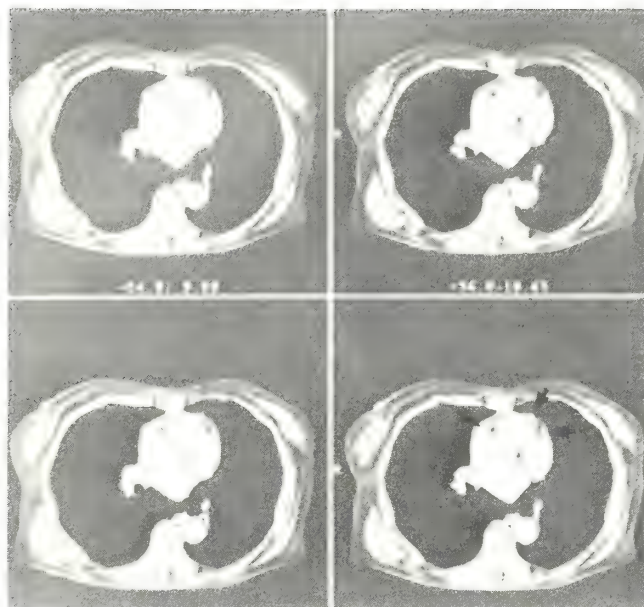


FIGURE 3: Cine-CT Study of patent coronary bypass grafts (arrow).

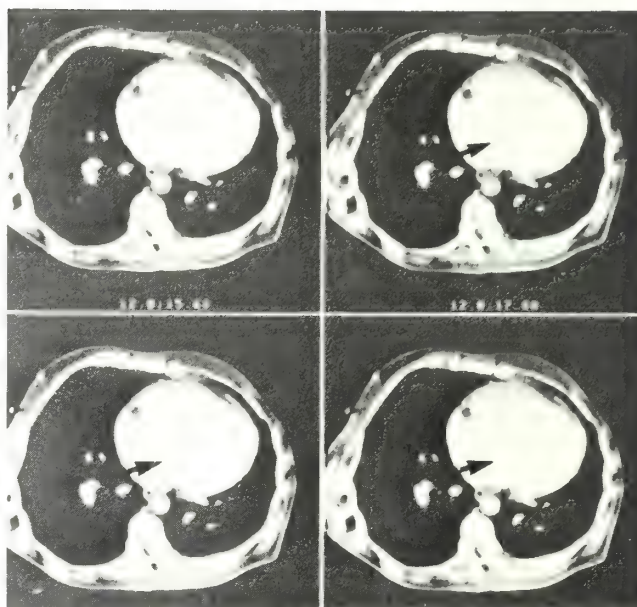


FIGURE 4: Cine-CT study of large VSD (arrow) with right to left shunt.

flow of blood through these areas to determine their patency. Also the time-density curves will determine the flow through the heart and great vessels to evaluate congenital heart disease, intra- and extra-cardiac shunts and valvular heart disease. Many cardiac diseases can now be evaluated without cardiac catheterization. In similar fashion, post-infarction patients can be evaluated for wall motion abnormalities and thrombus or aneurysm formation.

Non-cardiac applications for the Ultrafast CT scanner are also promising. The sheer speed of scanning makes it ideal for trauma patients.⁶ In patients with extensive trauma, it is not unusual for the head, chest, abdomen and pelvis to be examined. When speed is often essential for successful treatment, it is frustrating to wait for the scans to be completed in the conventional scanner. With the Ultrafast CT scanner, 17 scans per second can be performed. The patient can literally be scanned from "top to bottom" in a matter of minutes. Aortic transection is often suspected in trauma patients.

An examination of the thoracic aorta with a bolus injection of contrast material is easily and rapidly performed at the same time the other examinations are performed.

Speed also can be essential with pediatric patients.⁶ With the exception of the most cooperative patients, sedation or even general anesthesia is necessary to obtain a quality exam without motion artifacts. Fifty millisecond exam time will enable exams to be quickly completed without problems from motion. At each table setting eight scans can be completed, so it need not be moved as often. This will be helpful because moving a child through the gantry can be frightening and contribute to motion problems. Also, patients no longer will need to hold their breath. This will not only be invaluable in pediatrics, but also in scanning dyspneic patients.

The evaluation of apnea is another field where the dynamic scanning capabilities of the Ultrafast CT can be effectively used.^{6,7,8} Multiple scans at the same level during complete respiratory cycle and "played back" in an

endless loop will show if there is any respiratory compromise to cause the apnea (*Figure 5*).

Most conventional CT scanners have a 300-pound weight limit on their table top. When patients exceed this weight and cannot be imaged, patient care suffers and there is often a delay in making the diagnosis. There is a higher weight limit of 350 pounds on the Ultrafast CT scanner because the table top does not go completely through the gantry (*Figure 6*). This will not only be helpful in routine imaging, but also in imaging apnea patients, as many of these patients are obese.

The use of the Ultrafast CT scanner need not be limited to cardiac, trauma and pediatric imaging. An external columnator can be placed so that images of three mm thickness can be obtained.^{3,6,8,12} Even in routine imaging, the quality of the images is improved as motion artifacts from the pulsating aorta and pulmonary hilum are eliminated (*Figure 7*). Dynamic CT imaging has been attempted with various degrees of success on conventional CT scanners in the past. However, the

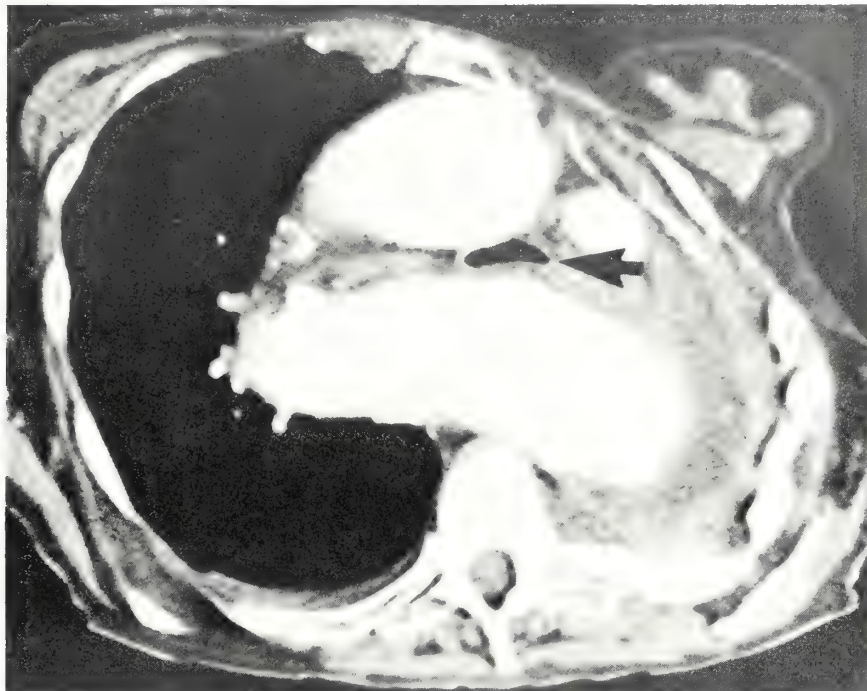


FIGURE 5: Aortic aneurysm compressing trachea (arrow) in a previously pneumonectomized patient.

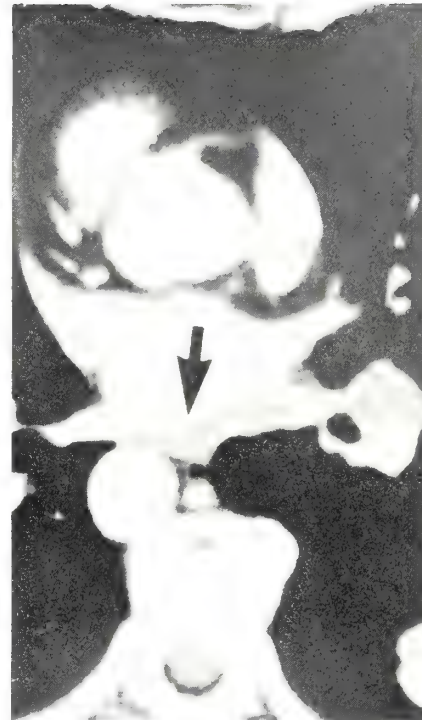


FIGURE 7: Infiltrating cancer metastasized to left atrium (arrow).

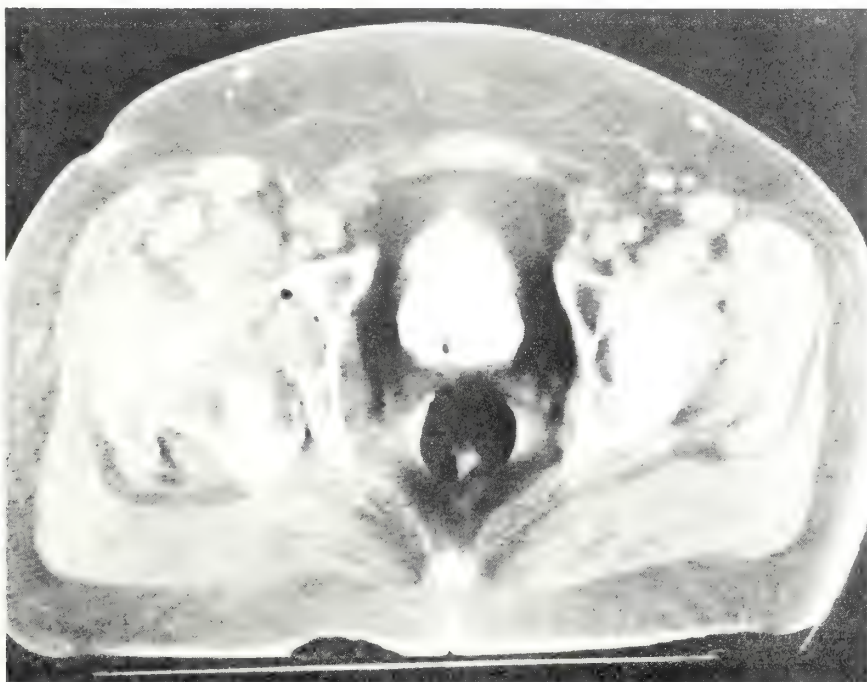


FIGURE 6: Fracture dislocation of right hip in a 350-pound patient.

Ultrafast CT scanner is ideally suited for this as seen in the various applications described above. Certainly other applications will be developed to take advantage of the different characteristics of the Ultrafast CT Scanner. As the quality of images is not compromised, a CT scanner that can scan in 50 ms is not a gimmick, but rather a new dimension in CT scanning.

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Foods that may help reduce the risk of gastrointestinal and respiratory tract cancer are cabbage, broccoli, brussels sprouts, kohlrabi, cauliflower

Fruits, vegetables and whole-grain cereals such as oatmeal, bran and wheat may help lower the risk of colorectal cancer

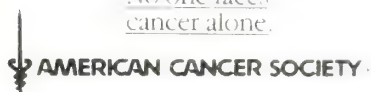
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BENJAMIN TEPLITSKY, R. PH.
Brooklyn, N.Y.

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Category:
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Hexalol, Central
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Snakeroot Extract

Number 12

July, 1988

PUBLISHED BY THE INDIANA MEDICAL HISTORY MUSEUM AND THE INDIANA HISTORICAL SOCIETY

Society Receives Indianapolis Industrial Clinic Collection

"Industrial hygiene is moving forward with rapid pace," wrote the editor of the Indiana State Board of Health's *Monthly Bulletin* in 1920. "At last," he continued, "the owners and proprietors of large industrial establishments have begun to realize it is up to them to do something to preserve health and industrial efficiency." In the same year, two Indianapolis physicians opened the state's first clinic for occupational diseases. Only one decade before, industrial or occupational medicine was unknown to most Hoosiers. Indianapolis physician Robert H. MacWilliams recently donated to the Indiana Historical Society materials which highlight both the local and national history of industrial medicine. The collection consists of the library and early administrative records of the Indianapolis Industrial Clinic.

Interest in occupational diseases began in 1903 when the United States Bureau of Labor commissioned a study on industrial diseases. A few years later, the American Association for Labor Legislation (AALL), an organization for the promotion of industrial hygiene, established a national commission and urged Congress to study occupational diseases.

In 1910, John Andrews, executive secretary of the AALL, scrutinized the match industry and found that workers exposed to white phosphorous (used in the manufacture of matches) were likely to develop phosphorous necrosis (or the deterioration of the upper jaw). His work resulted in the passage of the White Phosphorous Match Act. Under this law, the government taxed those match manufacturers which continued to use white phosphorous. Andrews's work, along with the activities of the AALL, were significant, but occupational diseases did not become a subspecialty of medicine until Indiana native Alice Hamilton (1869-1970) entered the field.

Born in Fort Wayne, Indiana, to one of the town's most prominent families, Hamilton studied medicine at the



Indiana native Alice Hamilton (above) was a pioneer in the field of industrial medicine. Photograph from Barbara Sicherman, *Alice Hamilton: A Life in Letters* (Harvard University Press, 1984).

Fort Wayne College of Medicine for two years but transferred to the University of Michigan after becoming disillusioned with Fort Wayne's program. After receiving her medical degree, she opted for a career in research and teaching. In 1897, she accepted a teaching position at the Women's College of Northwestern University in Chicago. While there Hamilton lived at Hull House, a settlement house on Chicago's west side, and worked to improve the health conditions of the poor. Through her work with the disadvantaged, she realized the connection between disease and the environment.

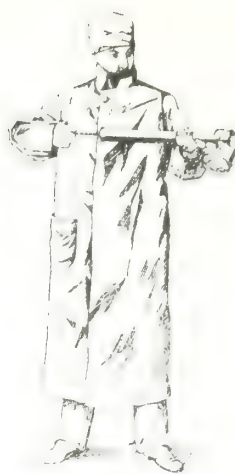
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Museum Receives Materials of Dr. John Hurty

Because of the efforts of John Newell Hurty, M.D. (1852-1925), during the late nineteenth century, the Indiana State Board of Health became one of the nation's most effective boards of health. During his administration, Hurty launched a massive public health campaign against infectious diseases such as typhoid fever, smallpox, tuberculosis, and venereal disease. Hurty also obtained state funding for a chemical and bacteriology laboratory and was responsible for the passage of a state pure food and drug act (one of the first in the nation).

Hurty was born in Lebanon, Ohio, and lived in Ohio, Illinois, and Kentucky, before coming to Indiana. Trained as a pharmacist, he taught pharmacy at Purdue University for several years. Hurty later received a medical degree from the Medical College of Indiana. He became secretary of the State Board of Health in 1896 and stayed there in that capacity until 1922. Recently the Indiana Medical History Museum received some of Hurty's certificates from the Indiana Pharmaceutical Association, as well as some of his laboratory equipment. One of the items, a formaldehyde generator, reveals an interesting part of Hurty's public health crusade.

Quarantine and disinfection were important weapons in the fight against infectious disease. Hurty insisted that health officers support these often controversial procedures. In the late nineteenth century, quarantine could not be lifted until a health officer had disinfected the facility with chloride of lime, corrosive sublimate, permanganate of potash, or the fumes of burning sulfur. In 1896, health officers added a fifth chemical to their list of disinfectants — formaldehyde. Although first produced



A health officer disinfecting a room with formaldehyde. From the Bulletin of the Indiana State Board of Health, March, 1900.

in 1867, scientists did not discover its disinfectant properties until the 1890s. Bacteriologists believed that formaldehyde was more convenient and easier to use than the other chemicals. Also, it did not discolor interior furnishings.

During formaldehyde's heyday the number of devices used to generate and spray the chemical multiplied. The Indiana State Board of Health adopted the Moffatt formaldehyde generator manufactured by the Eli Lilly and Company for use by its state health officers. The company eventually withdrew the product from the market when their scientists discovered that it was not particularly efficient generating formaldehyde. Moreover, it was unsafe — one of the generators exploded and seriously injured a public health officer in northern Indiana. An early model of the Moffatt generator is included among Hurty's laboratory equipment donated to the museum.

Health officers used formaldehyde for a number of years, but its popularity waned when bacteriologists realized that the substance did not penetrate into the cracks in floors. Eventually bacteriologists realized that cleaning with soap and water was not only much more effective in preventing disease but also safer than disinfecting with dangerous chemicals.

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Charles A. Bonsett, M.D., *Editor*

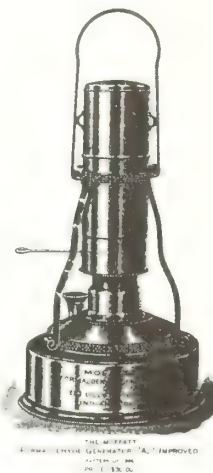
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Katherine Mandusic McDonell, *Managing Editor*

Submit all items for publication in the newsletter and inquiries about membership information to the Managing Editor, c/o Indiana Historical Society, 315 West Ohio Street, Indianapolis, Indiana 46202.

Snakeroot Extract derives its name from the white snakeroot plant, a plant that is significant in Indiana medical history. For years, a mysterious disease called milk sickness plagued early Hoosiers. There were many theories as to the disease's cause, but the actual cause remained unknown until the 1920s. At that time, the disease was traced to the white snakeroot plant or, rather, to the consumption of milk from cows that had eaten it. The plant contains the poison tremetol.

An 1898 model of the Moffatt formaldehyde generator. Photograph in the collection of the Eli Lilly and Company Archives.



Society Receives Collection

(continued from Page 1)

In 1908 the governor of Illinois appointed her to the Illinois Committee on Occupational Diseases. Realizing the need for a survey of occupational hazards, she resigned from the commission to become the state medical investigator of the "dangerous trades." She supervised the survey and also conducted her own study of those industrial processes which exposed workers to lead poisoning. In her study Hamilton visited 304 different organizations and discovered 70 industrial processes in which workers faced a danger of lead poisoning. She found the danger of lead poisoning in some unlikely industries. Workers who polished cut glass, wrapped cigars in foil, coated bathtubs, and laid electrical cables were all exposed to excessive amounts of lead. Exposure to lead could cause acute lead poisoning (characterized by attacks of colic, temporary blindness, convulsions, partial paralysis, and senility) or chronic lead poisoning (characterized by loss of weight and appetite, pallor, indigestion, constipation, and gouty or rheumatic pains). Her report was the first to use clinical records and correlate diagnosed cases of illness to specific industries.

Hamilton also investigated the use of arsenic in the manufacturing setting, occupational deafness, miners' nystagmus (neurosis of the eye peculiar to miners), and the dangers associated with brass manufacturing and zinc smelting. Although her report was devastating for some industries, few manufacturers could quarrel with Hamilton's painstaking research. Because of her work, Illinois passed an occupational disease law which provided for safety inspections of manufacturing plants and examinations of employees.

The United States Bureau of Labor was so impressed with Hamilton's work that they hired her in 1911 to investigate the white lead and lead oxide industries. By 1915 Hamilton had become one of the leading authorities on lead poisoning and industrial diseases. Her work resulted in the passage of the first workman's compensation law in 1915.

Although Hamilton never returned to Indiana to live, she undertook a study of the Indiana limestone industry. Stonecutters faced a risk of pulmonary diseases from prolonged exposure to stone dust. In the early twentieth century, pulmonary tuberculosis caused approximately 15 percent of the deaths among stonecutters. Hamilton, and others involved in the limestone industry studies, concluded that "the pulmonary hazard is much less in the Bedford plants than in stone cutting in general." Improved ventilation in the Bedford plants decreased the workers' chances of developing pulmonary tuberculosis. Hamilton took a personal interest in one other industrial hazard facing stonecutters — the effects of the use of the air hammer. In her 1918 report, she noted that prolonged use of the tool resulted in a disturbance of circulation in the hands.



Alice Hamilton and others were interested in the industrial hazards workers faced in the Indiana limestone plants. Photograph in the Indianapolis Industrial Clinic collection donated to the Indiana Historical Society.

In 1919, Harvard University hired Hamilton to teach industrial medicine. Harvard's creation of a professorship in industrial medicine was significant because it represented the medical profession's recognition of the discipline as a legitimate subspecialty. Also, Hamilton was the first woman to teach at Harvard's medical school (women were still not admitted as students). During her teaching career at Harvard, Hamilton continued to study other industrial health hazards. In 1935, she became a medical consultant to the Division of Labor Standards. At that time the division focused its attention on silicosis, a pulmonary disease caused by prolonged exposure to silica dust.

(continued on Page 4)

Exhibit Highlights Patent Medicine Era

From "pills for every ill" to rheumatism remedies, the history of late nineteenth- and early twentieth-century patent medicines is explored in "Quack Cures and Remedies: The Mouser Pharmaceutical Collection," an exhibit on display at the Indiana Historical Society through July 20.

The exhibit includes some of the more than 1,000 pharmaceutical bottles and packaged medications donated to the Indiana Medical History Museum by Indianapolis physician Robert W. Mouser (see *Snakeroot Extract*, February, 1988). Also on display will be photos of traveling medicine shows taken from the Society's photograph collection.

The patent medicine exhibit can be seen from 8 a.m. to 4:30 p.m. Monday through Friday on the third floor of the Indiana State Library and Historical Building, 315 West Ohio Street, Indianapolis.

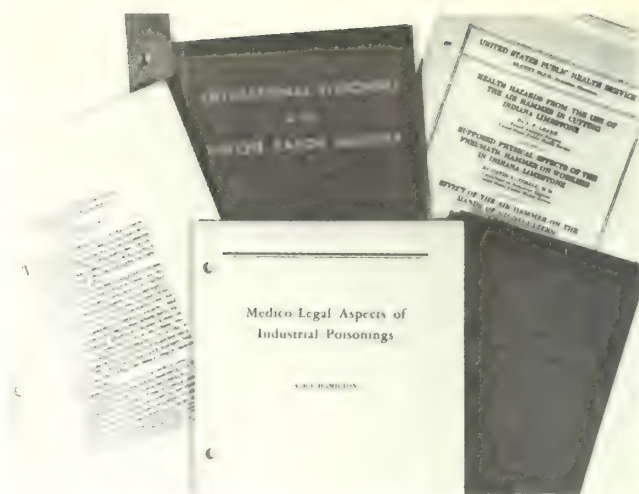
Society Receives Collection

(continued from Page 3)

Also while at the division, Hamilton conducted her famous study of the poisons used in the manufacture of viscose rayon. She discovered that exposure to one of these poisons, carbon disulfide, led to psychosis. Hamilton's classic study of the rayon industry, as well as her report on the Indiana limestone industry, are among the items in the Indianapolis Industrial Clinic collection.

Hamilton's pioneering work increased awareness of hazards in industrial settings. Doctors began specializing in the discipline; corporations took an interest in industrial hygiene. In Indianapolis, the trend resulted in the establishment in 1920 of the Indianapolis Industrial Clinic. Jewett V. Reed, M.D. (1878-1953), a neurosurgeon, and Eugene Bishop Mumford, M.D. (1879-1961), an orthopedic surgeon, founded the clinic. Also involved was Florence J. Martin (1877-1963), who had been the chief nurse at the Lilly Base Hospital in France during World War I and worked with both Reed and Mumford.

The clinic specialized in industrial diseases and provided medical services to area companies. In 1987, the



Shown above are several of the classic works on industrial medicine which are included in the Indianapolis Industrial Clinic collection donated to the Indiana Historical Society.

clinic merged with the Methodist Health Care Centers, Inc. The Indianapolis Industrial Clinic collection contains many of the classic works in industrial medicine, the early financial records of the clinic, and diplomas and certificates belonging to Dr. Mumford.

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Fort Wayne Physicians Pleased with Mini-internship Program

TINA SIMS
Editorial Assistant

For Dr. Paul V. Blusys, the Fort Wayne Medical Society's Mini-internship Program was an opportunity to "share what we do."

Dr. Robert E. Swint Sr. said the program allowed people outside the medical community to see doctors "as we are."

Dr. William J. Lewis enjoyed the chance to "get a different viewpoint of how we're perceived."

The Fort Wayne Mini-internship Program is the first of its kind in Indiana. It was designed to give community leaders in business, industry, the media, labor, clergy, education, politics and government the opportunity to view first-hand the daily work of the city's physicians and to help them understand the health care system. The program is based on a similar one in Cincinnati.

The first in a series of the two-day programs was conducted last September and the second was held in April. Another program is scheduled in the fall.

The program was established with several goals in mind. Dr. Michael J. Mastrangelo, immediate past president of the Fort Wayne Medical Society, has participated in both internship programs and views the program as a way to help those who are providing health benefits "know what they're getting for their dollar." He also hopes the pro-



Dr. Robert E. Swint Sr. checks the pulse of patient Donald Wright as Nicholas Heiny, a participant in the Fort Wayne Medical Society's Mini-Internship Program looks on. Exercising on the treadmill is Patrick Nelson. Heiny is president of the board of directors of the Northeast Area III Council on Aging. Dr. Swint is president of the Fort Wayne Medical Society.

gram helps participants realize that a doctor's practice is not limited to ordering pills and performing surgery but also involves interacting with patients and their families.

Dr. Mastrangelo also wants the interns to understand some of the unique problems doctors encounter in caring for the aged.

Dr. Swint, president of the Fort Wayne Medical Society, said the program "opened a dialogue with people who needed to know about the medical profession."

Sharon Little, the medical society's director of communications, explains that the program allows people "to look at medicine in a way they might not be able to otherwise."

In addition, "Doctors see their career through new eyes," said Ms. Little.

The goals of the program are explained in the following excerpt from a written statement the medical society issued on the rationale for the mini-internship:

"In today's health care environment of spiraling costs, confusion, criticism,



(Above, left) Oncologist Dr. Steven C. Meyer visits patient Alvina Buuck during rounds at Lutheran Hospital. Dr. Meyer was one of 42 Fort Wayne physicians who have participated in the mini-internship program. The third in a series of such programs is scheduled for the fall.

(Above, right) Dr. Paul V. Blusys (right), an emergency room physician at Parkview Memorial Hospital, explains his work to Benjamin Eisbart, a recent mini-internship participant and executive vice-president of Errol Houk Associates.

(Left) Nicholas Heiny (foreground), president of the Northeast Area III Council on Aging, and Barth Ragatz, assistant dean and director of the Fort Wayne Center for Medical Education, complete evaluations of the mini-internship program.

litigation and misunderstanding, the Fort Wayne Medical Society feels health care professionals must respond to medical consumers' concerns by establishing on-going and open communications. These communications must flow two ways if we are to resolve conflicts and devise constructive methods of containing costs without sacrificing patient care.

"Our mini-internship program is an effort to achieve these ends by exposing the humane concerns of medical practitioners through first-hand experience for interns. It also provides physicians with input from a broad spectrum of the community."

Interns, who are selected by medical society leaders, spend two days accompanying doctors during hospital rounds

and office visits with patients. Each intern is assigned to four doctors and spends a half-day with each one.

The program opens with an orientation dinner the night before the interns begin making rounds with the doctors. During the orientation, interns and doctors meet each other, learn about the goals of the program and have an opportunity to ask questions. Each

mini-internship also ends with a dinner, during which doctors and interns discuss their observations of the program and complete an evaluation form.

Some interns, such as Larry Hayes, editorial page editor of the *Fort Wayne Journal-Gazette*, have the opportunity to witness history-making medical events. Hayes was paired with Dr. Michael H. Schatzlein the day Dr. Schatzlein performed the first artificial heart implant in Fort Wayne. Hayes wrote a first-person account of the operation for the *Journal-Gazette*.

Other interns may not see such dramatic medical procedures, but all conclude the program is educational and interesting.

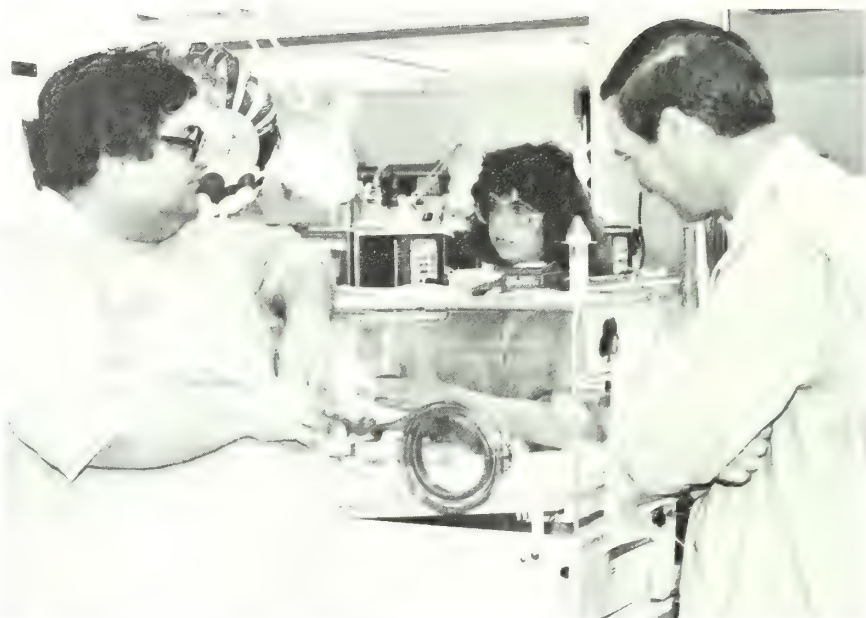
Intern Barth Ragatz, assistant dean and director of the Fort Wayne Center for Medical Education, said he was surprised by the "sizable amount of time investment" doctors have in their profession. He said two of the doctors he was paired with worked 70 to 80 hours a week.

Benjamin Eisbart, executive vice-president of Errol Houk Associates, had a "better appreciation" for what doctors do and noticed the doctors displayed a "tremendous amount of compassion and knowledge." He watched two surgeries, including an amputation, during his internship.

E. Ben Lytle, president and chief operating officer of Blue Cross/Blue Shield of Indiana, participated in the April internship program. "It was one of the best experiences of my career," he wrote in a letter to the Fort Wayne Medical Society.

Gary Gemmer, employee benefits manager at Rea Magnet Wire Co., was impressed that the doctors were concerned about "who is paying the bill." He said he found four new friends, referring to the doctors he accompanied, as a result of the internship.

Gemmer spent part of his internship with Dr. William Lewis, a neonatologist at Parkview Memorial Hospital.



Dr. William Lewis (left), a neonatologist at Fort Wayne's Parkview Memorial Hospital, and mini-internship participant Gary Gemmer watch as Jan Neuman, R.N., cares for a baby in the hospital's neonatal intensive care unit. Gemmer is employee benefits manager at Rea Magnet Wire Co.

Dr. Lewis said the opportunity for Gemmer to see a 1-pound baby has more impact than simply notifying Gemmer by telephone that a mother covered by a company insurance plan had delivered a premature infant requiring long and costly medical care. The first-hand look at a baby so small could make Gemmer—and other employee benefits managers—consider more than the cost to the company when assessing employees' insurance benefits, Dr. Lewis explained.

Participating doctors find the internship is educational and interesting for them, too. They have an opportunity—on a one-to-one basis—to hear about the public's concerns on such issues as medical care and health insurance. Dr. Mastrangelo spoke for many doctors when he said, "I learned from my interns."

Patients of participating doctors have accepted the interns' presence.

With few exceptions, the patients have given the interns permission to accompany the doctors.

Larry Pickering, Fort Wayne Medical Society executive vice-president, is pleased with the program. He said doctors have told him that the mini-internship has renewed their faith in their profession. Others say, "I haven't felt this happy about practicing medicine in 10 years," Pickering said.

Dr. Mastrangelo echoed Pickering's comments. "We have been thrilled" with the program, he said.

In declaring his support of the program, Dr. Mastrangelo said he would welcome a visit from an intern who called and said "I'm free tomorrow. Can I come and see what you're doing?"

Other physicians agreed with Dr. Mastrangelo because, as Dr. Blusys said, "We have no secrets to be kept."



AUXILIARY REPORT

Ann Wrenn, Bloomington
ISMA Auxiliary President 1988-89

The county auxiliaries—that's where the action is! Teamwork is happening. Physicians and spouses are working together toward a common goal—the preservation of the best health care delivery system in the world!

You the physicians are fighting for the privilege of treating people without undue government interference. We the auxiliaries are determined to improve the image of the profession and the image of our organization through community efforts and our visibility as your spouses. We must convince the public that physicians and their families do care!

One small county reported: "We invited ourselves to a Medical Society meeting. We were well received and have been invited again. This is a major breakthrough, as we have always been totally independent of each other."

We have been stressing teamwork between the medical society and the auxiliary, not only here in Indiana, but across the country. We need to work together. Address us as equals, and we will repay you a thousand times through our efforts on your behalf. We are your most powerful allies!

Read on, and discover what your spouses have accomplished this year:

Allen County continued its outstanding efforts in fund-raising for community service. Homebound Meals, AMA-ERF, Daybreak and the Pediatric Parent Overnight Program received support, as well as the Three Rivers Clinic, which continues to benefit in a major way. The clinic received more than \$8,000 this year.

Clark County designated February as community projects month, with the Continuing Care Center as the focus of members' attention. Members

presented books and magazines to the center to establish a library for the residents.

Delaware-Blackford County, with tireless efforts on behalf of a Tobacco Free Young America, is getting lots of attention through the tobacco-free characters "Barney Bear" and "Calvin Coyote" from "Friends Who Care," a program sponsored by Ball State Memorial Hospital and geared to young children.

Floyd County decided it needed a big project to get everyone involved and boost participation. A gala holiday reception with entertainment and a drawing for dinner in one of 20 local homes was a huge success. Medical family, community and hospital cooperation resulted in a donation to the hospital foundation of \$20,000. Congratulations to Mae Croft and her "army" of 52 members.

Lake County Northwest began the year with two goals—"to reach all of our members at some time" and "to reach out to our community through health-related endeavors." The president proudly reports that 80% of the membership of 98 participated at some point, meaning a successful effort was made in the planning of programs that appeal to a group with great diversity of interest and talent. We applaud them!

Reaching out to help the elderly, **Marion County** has joined several other counties in the distribution of Medi File Cards to physicians' offices for their use in the care of the older patient on multiple medications. We are proud of Marion County, which just accomplished the tremendous task of hosting the state auxiliary annual convention. It is a hard act to follow!

St. Joseph County found renewed commitment by the members when

South Bend hosted the International Special Olympics last summer. Auxiliary members helped keep medical records on the athletes during the games and were proud to have been a part of a volunteer force of 23,000 from this northern Indiana county.

In Evansville, the **Vanderburgh Southwest County** members acknowledge that the public is more aware of their role in the community after initiating an extremely successful fundraiser, a summer brunch and style show. Underwritten by Medical Society families, over \$7,000 was raised for health-related projects and organizations. Their Holiday Sharing Card netted a record \$5,047, and with additional smaller fund-raising efforts, this auxiliary raised more than \$14,000 for its Education and Service Fund, which is used to support health-related projects, AMA-ERF and nursing scholarships. This auxiliary also has another "star in its crown" for establishing the state's first county legislative phone "tree," enabling members to respond more quickly to legislative alerts.

Another page has been written in the history of the auxiliary as we closed the book on our 60th year!

The annual reports indicate that the counties have worked on adolescent health issues, medical family support, legislative issues and dozens of other issues of concern to the medical profession and the people who live in our home communities. Please join me, as the Immediate Past State President, in showing appreciation to our auxiliary members and all leaders in your respective counties. We have been—and will continue to be—"Advocates for Medicine"!—Anne Throop, Immediate Past President

BOOK REVIEWS

OCCUPATIONAL MEDICINE: STATE OF THE ART REVIEWS, Workers with Multiple Chemical Sensitivities, by Mark R. Cullen, M.D. Hanley & Belfus, Inc., 210 S. 13th St., Philadelphia, Pa. 19107. Hardcover, published four times annually; \$64 per year or single copies, \$29. (Reviewed by Thomas J. Conway, M.D., *Terre Haute*)

"Multiple chemical sensitivities (MCS) is (sic) an acquired disorder characterized by recurrent symptoms, referable to multiple organ systems, occurring in response to demonstrable exposure to many chemically unrelated compounds at doses far below those established in the general population to cause harmful effects." So says the editor of this State of the Art Review. He, Mark R. Cullen, M.D., uses seven pages of introduction and four pages of summation as an apologetic for the nebulous nature of the malady discussed in the intervening 11 chapters. Even so the malady remains a mystery.

In their chapter, Drs. R.S. Levin and V.S. Byers assemble opinions and data to convince the reader that MCS is an immunologic disease. Then Dr. A.I. Terr concludes the next chapter, "...There is no convincing evidence for any immunologic abnormality in these cases. Diagnostic methods have been shown to be unreliable. ... As defined and presented by its proponents, multiple chemical hypersensitivities (sic) constitutes a belief and not a disease." Dr. Leo Galland reported the biochemical findings of 56 of his patients who met the study criteria for MCS. He states many opinions, impressions and possibilities, but admits that "none of the differences reached statistical significance."

Dr. R.K. McLellan admits there is no scientific proof of effectiveness for the treatments offered the patients with (MCS) but he offers his techniques as "therapeutic options" and hopes they will "provoke appropriate scientific study." His methods include: environmental avoidance; improved ventilation, humidification; healthy diet without additives; home purified drink-

ing and bathing water (bathwater provides 70% of the daily absorbable volatile organic chemicals of man); additive-free medicines; pollen masks; biologic time setters (Zeitgebers); antioxidants; gamma linoleic acid or eisocop-entanoic acid to decrease inflammatory prostoglandins; antican-dida diet + oral nystatin; emergency decontamination; 100% oxygen; NaHCO₃ IV and Vitamins B₆ and C IV or oral. The list goes on, but it becomes confused as to whether Dr. McLellan uses or recommends the others.

Three chapters of this volume deal with matters psychosocial and psychiatric. Dr. C.M. Brodsky examines patients with MCS and their physicians who comprise, he believes, a medical subculture. He likens their treatment of these patients to the supportive psychotherapy given for emotional problems thought to be untreatable by psychiatrists. He asks for honest appraisals and non-damaging treatments—with full disclosure of the still experimental basis for many methods. Dr. R.S. Schottenfeld's chapter focuses on the pitfalls inherent in diagnosis and management of environmentally injured people whose signs and symptoms include many also found in psychiatric or psychosomatic diseases. He asks that anxiety, depression, conversion disorder, hypochondriasis and somatization disorder not be labelled as MCS willy-nilly, or patients who might have been helped may move on to larger emotional problems. His insightful summary brings a bit of order to the scientific chaos found in other parts of the volume.

Chapters presented by an industrial hygienist and a social worker demonstrate the complicated life led by the person with MCS at the job site. It is no wonder that employers, insurers, union leaders and environmentalists have become interested in the problem of multiple chemical sensitivities. Claims of work disability are lodged by workers with normal physical and laboratory examinations. Their symptoms may involve almost all organ systems in varying degrees of

severity and frequency. Disputes in diagnosis and prognosis by competent physicians are the rule. The problem seems insoluble.

This volume is a plea that physicians not dismiss these patients out of hand. They relate their inability to stay healthy and happy to an excessive reaction to or an increased perception of environmental materials that leave the rest of us unperturbed. The authors have tried, each in his or her own way, to enlist other physicians in the care of patients whose problems are no less real just because they remain inexplicable. Good luck.

KILL AS FEW PATIENTS AS POSSIBLE AND FIFTY-SIX OTHER ESSAYS ON HOW TO BE THE WORLD'S BEST DOCTOR, by Oscar London, M.D., W.B.D. Copyright 1987, Ten Speed Press, Berkeley, Calif. 102 pages, soft-cover, \$8.95. (Reviewed by Rodney A. Mannion, M.D., *LaPorte*)

As the title suggests, this is a collection of humorous and satiric essays written by an internist with the pseudonym of Oscar London. They are incisive vignettes of everyday practice, but the author has a trenchant wit that is most amusing and hits the reader with illuminating epiphanies on every page.

Some of the 57 chapter titles include the one which gives the book its name, but other choice selections are "Be Jewish," "Don't Weintraub Yourself to Death," "Make a Housecall and Become a Legend in Your Own Time" and "Don't Take Too Much Joy in the Mistakes of Other Doctors." And it goes on and on. The penultimate Rule #56 is, "When All Else Fails, Get a Five Hour Glucose Tolerance Test."

There is a "mother lode" of philosophical wisdom in this book. The doctor reading it gets a release of anxiety because Dr. London delineates our common problems and even makes some of them funny.

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Therapy / LOWELL L. NAEFF, MD, et al

Assessment of Aortic Regurgitation by Doppler
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Cardiovascular Reserve in Idiopathic Dilated
Cardiomyopathy / RICKY D. LATHAM, MD, et al

Overview • Coronary Angioplasty: Evolving Applications
GEORGE W. VETROVEC, MD

*Journals reviewed include: *Circulation*, *American Heart Journal*, *Journal of the American College of Cardiology*, *British Heart Journal*, *Chest*, *The American Journal of Cardiology*, *The New England Journal of Medicine*, *Annals of Internal Medicine*, *American Journal of Medicine*, and *The Journal of the American Medical Association*.

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THE AMERICAN CANCER SOCIETY has developed a new brochure, entitled "*Breast Self Exam*." The brochure pictorially demonstrates the three steps in "How to Examine Your Breast" and is available free of charge. For ordering information, write to the American Cancer Society, 1843 N. Meridian St., Indianapolis, Ind. 46202.

ST. LOUIS UNIVERSITY SCHOOL OF MEDICINE, ONCOLOGY DIVISION, CANCER SYMPOSIUM will be held Oct. 21-22. This cancer symposium is designed for practicing physicians, allied health professionals and graduate and medical students interested in gaining a broader knowledge of current research and the development of new therapies in the treatment of cancer.

The program objectives are: 1) to provide program participants with updated knowledge for the management of patients with a variety of malignancies with an emphasis on breast cancer; 2) to identify current trends in the development of new cancer therapies; and, 3) to outline the potential impact of current basic and clinical research efforts directed at improving the survival of patients with malignant diseases.

Cost for the symposium for physicians is \$150. Make checks payable to: St. Louis University School of Medicine, 1325 S. Grand Blvd., St. Louis, Mo. 63104.

I CAN COPE, sponsored by the American Cancer Society, is a series of seminars to give cancer patients and their families information about their disease, diagnostic procedures, treatment and self-care management. The importance of attitude is explored as they learn effective ways of coping with cancer's impact on their physical and emotional well-being. This program also acquaints cancer patients with the many resources available in the community. For more information, call (317) 923-2225.

TWELFTH ANNUAL CANCER SYMPOSIUM will be held Nov. 7-9 in San Diego, Calif. This three-day course will include viewpoints and panel discussions of the agenda topics. The course agenda includes the following: cancer prevention and early detection, combined modality therapy, clinical problems in breast cancer, genitourinary malignancies, new concepts/updates, hematologic malignancies, Bernard Lee Schwartz lecture and malignant lymphomas. The symposium will be held at the Sheraton Harbor Island Hotel. For further information, contact Naomi Feldman at (619) 453-6222.

THE DAYTON SOCIETY PRESENTS "Research on Human Tumor Antigens" by Hilary Koprowski, M.D., of the Wistar Institute. The lecture will be held Monday, Sept. 12, at the Kettering Medical Center, 3535

Southern Blvd., East Amphitheater, Kettering, Ohio.

THE COOK COUNTY (Illinois) GRADUATE SCHOOL OF MEDICINE will conduct the 30th annual offering of specialty review in medicine July 31-Aug. 7. It is a thorough, clinically based, didactic review that is intellectually stimulating and practice applicable. Both comprehensive and concise, this 65-hour review is held over a seven and one-half day period.

Course content is especially designed to meet the needs of board candidates. The subspecialty areas are covered from the viewpoint of the general internist, providing a framework for further study. The syllabus also includes a self-assessment examination to point out areas you need to emphasize in your home studies and to help you evaluate your progress. The course is also recommended for certified internists because it offers a look at contemporary practice.

The faculty is composed of clinical experts from the six Chicago area medical schools, specially chosen for their ability to communicate practice information to their peers in a meaningful way. The course syllabus and the permanent reference materials specially selected by the lecturers allow for more time listening and less time taking notes. The Specialty Review in Internal Medicine course will be held at The Holiday Inn in Chicago, Ill. For further information, call (800) 621-4651.

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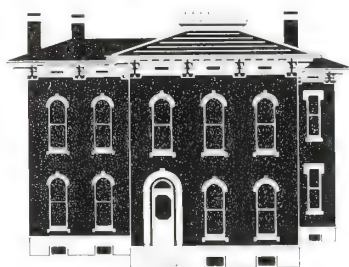
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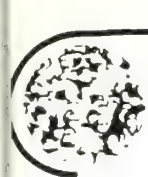
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PROBLEM SOLVING

By Arthur R. Pell, Ph.D.
Consultant, Dale Carnegie & Associates, Inc.

Solving problems is an important part of most management jobs. Supervisors must deal with problems concerning operations, production, quality, personnel and sometimes marketing and financial areas. The most usual resource used to deal with these problems is the previous experience of the manager. If he or she has been involved in the type of work for any length of time, the chances are that similar problems have arisen in the past. By applying what previously worked, there is a good possibility it will work again.

Unfortunately, this does not always hold true. Sometimes a solution that had been successful in the past may not be effective this time. Although it appears to be the same problem, circumstances may be somewhat different. To avoid this, before tackling a problem, first make sure just what the problem really is.

Clarify the Problem

A major manufacturer of refrigerators had lost a significant share of its market to a competitor. In the past when market share had decreased, the reason for it was increased advertising on the part of the competitor involved, and it was overcome by increasing their own advertising. Using this past experience as a guide, they developed a good advertising campaign to overcome the current loss. To their surprise, the advertising did not help at all—in fact, the market share continued to decrease.

Further study showed that this time the competitor had not done any unusual advertising, but had increased the mark-up given to the retailers. This gave the retailer added incentive to push the competitor's product, even when the customer visited the store as a result of the new advertising. They had tackled the wrong problem. Study the problem; look for the real problem; it may not be what first appears to be the obvious one.

What Are The Causes of the Problem?

Often when we seek the cause of a problem, we see only the tip of the iceberg. The problem is much deeper. You have an itchy rash. Your dermatologist prescribes a salve, which you apply. The itching stops; the rash goes away. You think you have solved the problem. But, two weeks later it returns. What has happened? The doctor treated the symptom—the rash. True, the rash was a real problem to you, but it was not the real cause of the problem, which might have been an allergy or another medical situation. To find the real cause or causes of the problems in our jobs, we must look for the "critical factor(s)" from which the problem has arisen. This requires depth study and careful analysis.

Develop Several Possible Solutions

Typically, when faced with a problem, we may think of an immediate solution and rush it into effect. Just because a possible solution comes to mind immediately, does not mean that this is the best solution. It is far better to consider a variety of possible solutions before choosing the one to be tried.

Keep an open mind. Seek suggestions from the people who are closest to the problem—your staff, who work with the situation and will be involved in implementing the action that will be taken. Call on experts in your company (or outside the company, if appropriate) to benefit from their experience and knowledge.

Be creative. People are more creative than they realize. By utilizing this often hidden power within us, innovative concepts can be uncovered that may solve our problems.

Determine the Best Solution

Once several alternatives have been developed, weigh all the factors and decide which is the best. To do this, it is necessary to review the problem and determine what the solution chosen must accomplish if the problem is to be solved.

List those items which are absolutely essential to the solution. These may include maximum cost, time limitations, use of personnel, use of other resources. Then list those items which are not essential, but would make the chosen solution even better than if they just met the essentials.

When the New Wave Hairdressers were seeking a new location, they listed as essential factors in making the decision:

1. The new location must be in an active shopping mall.
2. It should be no less than 4000 square feet
3. The rent must be no more than "\$X" per month
4. We can open for business no later than six months from now

It would be nice if:

1. There was 4500 square feet for that rent.
2. The landlord would pay for redecorating costs.
3. There were no other hairdressers in the mall.
4. There were high fashion boutiques in the mall.

These latter four are preferential factors.

New Wave should not even consider a location unless all of the essential factors are met. Then, by weighing the various preferential factors, they can determine which is the best deal for them.

Take Action

Once a decision is made, put it into effect. Each person involved in implementing the solution should be assigned his or her part, resources should be assembled and the action started. As the supervisor, you should be on top of the situation. If there are some people on your staff who are not enthusiastic about the solution, "sell" it to them. Be available to help those involved to understand what has to be done, to demonstrate where appropriate and help where needed.

Follow-Up

There are times when the type of problem involved requires a solution to which the company must commit itself for extended periods (e.g., moving to a new location). If the solution chosen does not work, there is little one can do to salvage it. Therefore, in such situations, the problem analysis must be performed with utmost skill. Fortunately, most problems faced by supervisors are not that permanent and can be reversed if they do not work.

When putting such a solution into effect, ask: "How long will it take to determine if this solution is working?" Then set your follow-up date accordingly. At that time, evaluate what has occurred and if it has not solved the problem, drop it and select one of the other alternatives. There is no reason to stick with a solution that is not effective when there are other alternatives available to try.

Pocket/purse size reprints may be purchased (10 for \$10.00) or (25 for \$20.00) from Dale Carnegie & Associates, Inc. 1475 Franklin Avenue, Garden City, NY 11530

NEWS NOTES

Booklet Offers Advice on Phobia Treatment

"Phobic and Panic Disorders: Getting Help" is the title of a booklet offered free by the Phobia Society of America.

The booklet urges those suffering phobic or panic disorders to seek help so they may overcome the conditions and minimize the repercussions the disorders can cause.

To obtain a copy of the 12-page booklet write to the Phobia Society of America, Booklet, P.O. Box 42514, Washington, D.C. 20015-0514.

Upjohn Sponsors Essay Contest for Diabetics

The Upjohn Company is sponsoring the third Annual Jim "Catfish" Hunter Diabetic Hall of Fame Award. The award was created to honor an individual with non-insulin-dependent diabetes whose new, healthful life-style proves a diagnosis of diabetes can actually lead to a better quality of life.

Contestants are judged based on a 500-word essay on the subject, "Why I'm Healthier Now Than Before I Learned I Had Diabetes." Diabetic patients who are interested in competing

for the award should write to Diabetic Hall of Fame, 79 Madison Ave., 3rd Floor, New York, N.Y. 10016. Entries must be received no later than Sept. 15.

Medical Supplies Catalog Available

The 1988 Medical Supplies Catalog from Hewlett-Packard Co. is available free of charge to medical professionals who purchase medical supplies and accessories.

The 96-page catalog is organized into five product categories: electrodes, cables, paper, pressure products and accessories.

Inquiries may be mailed to: INQUIRIES MANAGER, Hewlett-Packard Co., Medical Products Group, 3000 Minuteman Road, Andover, Mass. 01810.

Here and There . . .

Dr. Jeffrey E. Salon, a Fort Wayne specialist in critical care medicine, spoke to the Wells County Medical Society at its April meeting; his topic, "Update on Severe Congestive Heart Failure: 1988," focused on pathophysiology and new strategies in treatment.

Dr. Karl L. Manders of Indianapolis recently was elected president of the Midwest Pain Society; in April he addressed the following audiences: the family practice residency at Indiana University, where he discussed hyperbaric medicine and its clinical use in wound healing; the Riverview Hospital staff concerning "Hyperbaric Therapy for Challenges of the Future"; and the freshman class at the I.U. School of Medicine at Fort Wayne concerning "Chronic Pain and Its Clinical Applications."

Dr. Paul E. Schmidt of Indianapolis was elected vice-chairman of the Butler University Board of Trustees.

Dr. Ray E. Drasga of Merrillville has been appointed to the board of directors of St. Anthony Medical Center, Crown Point.

Dr. Leonard J. Green III of Terre Haute discussed the physical side of menopause during the spring "Women and Health" series sponsored by the Terre Haute YWCA in May.

Dr. Peter G. Garrett, a Kokomo radiation oncologist, presented a program sponsored by the Woman's Center Outpatient Services of Howard Community Hospital in Kokomo concerning "Breast Cancer: Are You at Risk?"

Physician Recognition Awards



The following ISMA physicians are recent recipients of the AMA's Physician Recognition Award. This award is official documentation of Continuing Medical Education hours earned, and is acceptable proof in most states requiring CME in re-registration that the mandatory hours of CME have been accomplished.



Abeleda, Lamberto V., Shelbyville
Alexander, Panos C., Kokomo
Anderson, James T., Greenfield
Beaver, Steven R., Rensselaer
Betancourt, Antonio M., Bloomington
Bond, Larry G., Lafayette
Broadie, Thomas A., Indianapolis
Carnes, John D., Huntington
Caughlin, James P., Indianapolis
Dickerson, J. Brooks, Mulberry
Echsner, Herman J., Columbus
Eckert, Russell A., Logansport
Eller, Alvan L., Flora

Ferry, Francis A., Indianapolis
Foley, Phillip D., Middletown
Gabriel, Magdi, Mishawaka
Gray, Marlin R., Ferdinand
Hoover, Joseph R., Fort Wayne
Kelly, Michael J., Vincennes
King, Charles R., Anderson
Kinne, Mark T., Bluffton
Koontz, James A., Vincennes
Kovacich, Michael, Merrillville
Krol, John E., Granger
McCann, James P., Wabash

McClain, Debra R., South Bend
Park, Jung, Munster
Sklenarz, Krystyna M., Merrillville
Sneary, Max E., Avilla
Somes, Claudia J., Indianapolis
Swaim, J.F., Rockville
Thompson, Samuel R., Fort Wayne
Tyrrell, Thomas C., Hammond
Underwood, George M., Lafayette
Volan, George J., Merrillville
Wieland, Rex A., North Manchester
Yoder, Steven M., Goshen
Zollman, Charles W., Indianapolis

Dr. Woodrow A. Myers Jr., Indiana State Board of Health commissioner, was inducted as a member of the American College of Physician Executives during its National Conference on Health Care Leadership and Management in May in San Diego, Calif.

Dr. Ray L. Henderson of Indianapolis spoke at a recent black health issues conference at the Lincoln Hotel and Conference Center in Indianapolis; his topic was hypertension. He was also recently re-elected president of the Marion County Division of the American Heart Association.

Dr. John L. Haste of Rochester has been elected chief of the medical staff at Woodlawn Hospital.

Dr. John E. Joyner, an Indianapolis neurosurgeon and associate professor at the Indiana University School of Medicine, was awarded an honorary doctoral degree from Martin Center College; he also was named one of the "100 Most Influential Black Americans" by *Ebony* magazine.

Dr. Daniel R. Evans, a Valparaiso ophthalmologist, received an honorary degree from Purdue University-Calumet.

Dr. Patricia A. Keener of Indianapolis, director of pediatrics at Community Hospital, is the new president-elect of the board of directors of Day Nursery Association of Indianapolis, Inc.

Dr. Bruce H. Bender, **Dr. Gerald L. Braverman** and **Dr. Robert Daly** of Indianapolis have passed the Critical Care Board exam sponsored by the American Board of Internal Medicine.

Dr. William C. VanNess II of Summitville recently spoke on "Blood Pressure and Women" at a Women and Health program sponsored by Community Hospital in Anderson.

Dr. Clement J. McDonald and **Dr. William M. Tierney**, members of the department of medicine at Indiana University School of Medicine and the Regenstrief Institute for Health Care, received a \$1.6 million grant to study the effects of a comprehensive hospital computer system on the cost and quality of medical care.

Send your news items and comments to the Editor, INDIANA MEDICINE, 3935 N. Meridian St., Indianapolis 46208.

Dr. Mason R. Goodman of Indianapolis has been elected to the board of trustees of the Children's Museum.

Dr. Jack H. Hall of Indianapolis has been appointed to the Children's Museum board of advisers.

New ISMA Members

Maier Ajam, M.D., Downers Grove, Ill., internal medicine.

Hassan I. Alsheik, M.D., Canton, Ill., urological surgery.

Bharat H. Barai, M.D., Munster, internal medicine.

Henry W. Bockleman, M.D., Evansville, anatomic and clinical pathology.

Gregory G. Bojarb, M.D., Indianapolis, internal medicine.

Dennis M. Briddell, M.D., West Lafayette, cardiovascular diseases.

William G. Carey, M.D., Evansville, ophthalmology.

John C. Carrozzella, M.D., Martinsville, orthopedic surgery.

Steven R. Coenen, M.D., Marion, family practice.

Clifford E. Crawford, M.D., Terre Haute, internal medicine.

Basil J. Datzman, M.D., Fowler, family practice.

Thomas M. Davis, D.O., Indianapolis, general practice.

David M. Duncan, M.D., Fortville, family practice.

James W. Green, M.D., Fort Wayne, orthopedic surgery.

Courtney T. Harris, M.D., Fort Wayne, thoracic surgery.

Jeffrey A. Heavilon, M.D., Fort Wayne, orthopedic surgery.

John M. Jacobs, M.D., South Bend, family practice.

Isaac John, M.D., Fort Wayne, pediatrics.

E. Michael Keating, M.D., Mooresville, orthopedic surgery.

Matthew A. Keefer, M.D., Indianapolis, anesthesiology.

Caitlin Kelly, M.D., Bloomington, internal medicine.

Mark O. Lynch, M.D., Sullivan, general surgery.

Alan W. McGee, M.D., Fort Wayne, family practice.

Joseph A. Mohammed, M.D., Vincennes, obstetrics and gynecology.

David R. Morrison, M.D., Indianapolis, occupational medicine.

John R. Pancoast, M.D., Lawrenceburg, oncology.

Frank J. Pangallo, M.D., Fort Wayne, family practice.

Melanie Sanders, M.D., Mooresville, orthopedic surgery.

Wagih A. Satar, M.D., Princeton, ophthalmology.

Berton T. Schaeffer, M.D., Sullivan, anatomic and clinical pathology.

Nilima V. Shukla, M.D., Jeffersonville, psychiatry.

James F. Silliman, M.D., Fort Wayne, orthopedic surgery.

Joselito L. Syfu, M.D., Evanston, Ill., anesthesiology.

Benjamin B. Tang, M.D., Merrillville, general surgery.

C. Singh Thethi, M.D., Marion, nephrology.

William C. Thompson II, D.O., Monroe City, family practice.

Samuel B. Van Landingham, M.D., Terre Haute, general surgery.

John C. Welch, M.D., Terre Haute, family practice.

Residents:

Leo T. D'Ambrosio, M.D., Indianapolis, neurology.

John T. Cummings Jr., M.D., Indianapolis, neurological surgery.

Robert A. Czarkowski, M.D., Carmel, orthopedic surgery.

Gregory J. Davis, M.D., Louisville, Ky., anatomic and clinical pathology.

Sylvia J. Dennison, M.D., Indianapolis, psychiatry.

David M. Garagiola, M.D., Indianapolis, radiology.

Frank E. Lee, M.D., Indianapolis, radiology.

R. Scott Potter, M.D., Indianapolis, family practice.

OBITUARIES

Robert H. Schirmer, M.D.

Dr. Schirmer, 79, an Evansville general practitioner, died April 27.

He was graduated from the University of Louisville Medical School in 1938.

Dr. Schirmer served as a major in the Army in World War II. Dr. Schirmer practiced medicine from 1945 until 1978 and also served as the team doctor for the Reitz High School football team for many years.

Frank E. Hagie, M.D.

Dr. Hagie, 62, a former Richmond physician, died April 5 in Napa, Calif.

He was graduated from the Indiana University School of Medicine in 1949.

He had resided in California since 1973.

Russell S. Henry, M.D.

Dr. Henry, 84, a retired Indianapolis physician, died March 28.

He was a 1932 graduate of Indiana University School of Medicine. He was a Navy veteran of World War II and received the Bronze Star.

Dr. Henry operated a private medical practice 30 years before retiring in 1982. He was a consultant for the State Board of Health and a fellow of the American College of Chest Physicians. He was recognized in 1982 for 50 years as a practicing physician.

Roscoe C. Henderson, M.D.

Dr. Henderson, 73, an Indianapolis physician, died May 10.

He was graduated from Meharry Medical College in 1949.

Dr. Henderson practiced general medicine from 1953 until his retirement last year. In the latter years of his practice, he devoted much of his time to Citizens Ambulatory Healthcare Center.

Andrew C. Offutt, M.D.

Dr. Offutt, 77, former Indiana state health commissioner, died May 3 at his Indianapolis home.

He was a 1940 graduate of the Indiana University School of Medicine. During World War II, Dr. Offutt was on the medical staff of the European Theater of Operations. He later served in the U.S. surgeon general's office in Washington, D.C.

In 1951, Dr. Offutt joined the Indiana State Board of Health and was appointed commissioner in 1954. He served in that position for nearly two decades.

Frank H. Neukamp, M.D.

Dr. Neukamp, 76, a former Connersville physician, died Oct. 5, 1987.

He was a 1936 graduate of Rush Medical College and served in the Army Medical Corps during World War II.

George E. Scott, M.D.

Dr. Scott, 78, a retired Indianapolis anesthesiologist, died March 12 at Manor House at Riverview Hospital in Noblesville.

He was a 1936 graduate of Indiana University School of Medicine and served as an Army Medical Corps captain in World War II.

Dr. Scott was a member of the American Society of Anesthesiologists and the ISMA Fifty Year Club. He retired in 1980.

Theodore C.C. Fong, M.D.

Dr. Fong, 87, a Madison psychiatrist, died April 12.

He was graduated from Tufts University School of Medicine in 1922 and served in the U.S. Army during World War II as chief of neuropsychiatric service at Darnall General Hospital in Danville, Ky.

Before his retirement, he was assistant superintendent of Madison State Hospital. Dr. Fong became a member of ISMA's 50-year Club in 1972.

Thomas A. Elliott, M.D.

Dr. Elliott, 67, an Elkhart internist, died May 13.

He was a 1946 graduate of Northwestern University Medical School.

Dr. Elliott founded Elkhart Clinic in 1952 and established the intensive and coronary care units of Elkhart General Hospital in 1964. He retired in 1986 after 35 years of active practice, but continued consulting work in cardiology. He was a member of the American College of Physicians and the American Society of Internal Medicine and was a diplomate of the American Board of Internal Medicine.

Memorials: Indiana Medical Foundation

The Indiana Medical Foundation, Inc. was formed by the Indiana State Medical Association "for religious, charitable, scientific, literary or educational purposes." It provides financial assistance to support the educational mission of INDIANA MEDICINE.

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The Foundation is pleased to acknowledge the receipt of gifts in remembrance of the following individuals:

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- 6—Pres: William A. Nesbitt, Connersville
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- 7—Pres: Peter L. Winters, Indianapolis
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- 8—Pres: Joseph C. Copeland, Anderson
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- 9—Pres: Dallas E. Coate, Lebanon
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- 10—Pres: Surjit S. Patheja, Valparaiso
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- 11—Pres: Brian L. Doggett, Delphi
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- 12—Pres: Thomas D. Smith III, New Haven
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 Annual Meeting: Sept. 15, 1988, Fort Wayne
- 13—Pres: Jon B. Kubley, Plymouth
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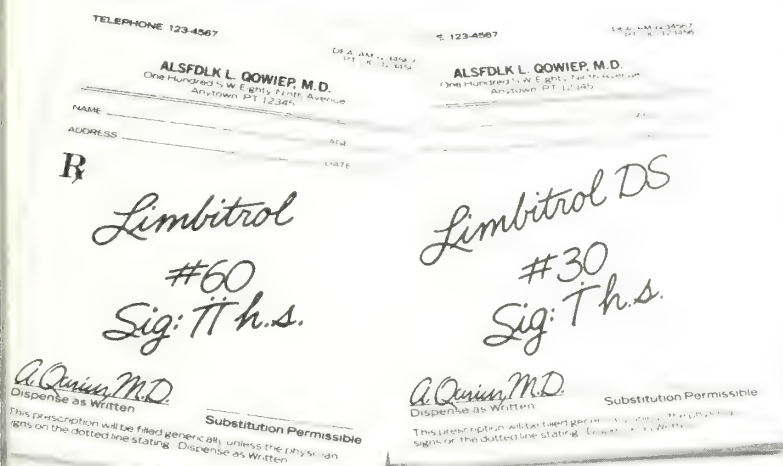
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Limbitrol[®] Tranquilizer—Antidepressant

Before prescribing, please consult complete product information, a summary of which follows:

Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants; concomitant use with MAOIs or within 14 days of monoamine oxidase inhibitors (then initiate cautiously, gradually increasing dosage until optimal response is achieved); during acute recovery phase following myocardial infarction.

Warnings: Use with caution in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur when used with anticholinergics. Closely supervise cardiovascular patients. Arrhythmias, sinus tachycardia, prolongation of conduction time, myocardial infarction and stroke reported with tricyclic antidepressants, especially in high doses. Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

Usage in Pregnancy: Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations. Consider possibility of pregnancy when instituting therapy.

Withdrawal symptoms of the barbiturate type have occurred after discontinuation of benzodiazepines (see Drug Abuse and Dependence).

Precautions: Use cautiously in patients with a history of seizures, in hyperthyroid patients, those on thyroid medication, patients with impaired renal or hepatic function. Because of suicidal ideation in depressed patients, do not permit easy access to large quantities of drug. Periodic liver function tests and blood counts recommended during prolonged treatment. Amitriptyline may block action of guanethidine or similar antihypertensives. When tricyclic antidepressants are used concomitantly with cimetidine (Tagamet), clinically significant effects have been reported involving delayed elimination and increasing steady-state concentrations of the tricyclic drugs. Use of Limbitrol with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Should not be taken during the nursing period or by children under 12. In elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects. Inform patients to consult physician before increasing dose or abruptly discontinuing this drug.

Adverse Reactions: Most frequent: drowsiness, dry mouth, constipation, blurred vision, dizziness, bloating. Less frequent: vivid dreams, impotence, tremor, confusion, nasal congestion. Rare: granulocytopenia, jaundice, hepatic dysfunction. Others: many symptoms associated with depression including anorexia, fatigue, weakness, restlessness, lethargy.

Adverse reactions not reported with Limbitrol but reported with one or both components or closely related drugs: **Cardiovascular:** Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke. **Psychiatric:** Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania, increased or decreased libido. **Neurologic:** Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extra pyramidal symptoms, syncope, changes in EEG patterns. **Anticholinergic:** Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract. **Allergic:** Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus. **Hematologic:** Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia. **Gastrointestinal:** Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue. **Endocrine:** Testicular swelling, gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion. **Other:** Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

Drug Abuse and Dependence: Withdrawal symptoms similar to those noted with barbiturates and alcohol have occurred following abrupt discontinuance of chlordiazepoxide; more severe seen after excessive doses over extended periods; milder after taking continuously at therapeutic levels for several months. Withdrawal symptoms also reported with abrupt amitriptyline discontinuation. Therefore, after extended therapy, avoid abrupt discontinuation and taper dosage. Carefully supervise addiction-prone individuals because of predisposition to habituation and dependence.

Overdosage: Immediately hospitalize patient. Treat symptomatically and supportively. I.V. administration of 1 to 3 mg physostigmine salicylate may reverse symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

How Supplied: Double strength (DS) Tablets, white, film-coated, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt), and Tablets, blue, film coated, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)—bottles of 100 and 500; Tel-E-Dose[®] packages of 100; Prescription Paks of 50.



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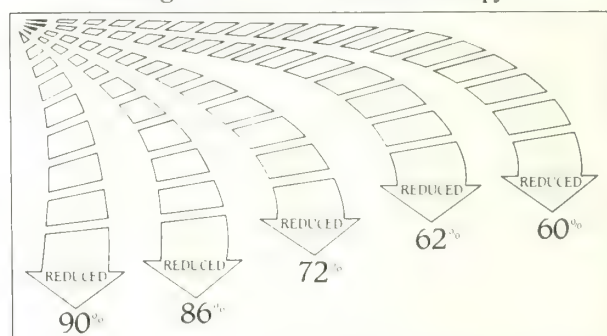
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The Journal of the Indiana State Medical Association



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Vol. 81, No. 8
AUGUST 1988

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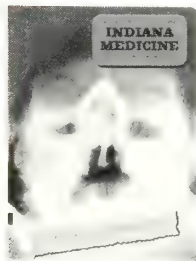
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ABOUT THE COVER

"Nosocomial Sinusitis in ICU" is the title of this month's Adult Critical Care article. Nosocomial sinusitis accounts for approximately 5% of all nosocomial infections in the ICU and occurs in more than 25% of patients nasotracheally intubated longer than five to seven days. X-rays and sinus aspiration can aid in diagnosis.



STETHOSCOPE

EXAMINING STATE & NATIONAL MEDICAL ISSUES

The AMA has notified state medical associations that physicians may be asked to provide data to Medicare carriers; however the requests may not be authorized by the Health Care Financing Administration.

One Medicare carrier's questionnaire and demands that physicians complete it prompted the AMA to ask if HCFA had approved the survey. HCFA had not.

This issue apparently grew out of a HCFA request that Part B carriers prepare proposals to develop a registry for all practitioners who provide Medicare services. The registry will assign a Unique Physician Identification Number (UPIN) to each provider. The UPIN system is to monitor practitioners who have been suspended from the program and prevent them from moving to other states and carrier jurisdictions.

Inquiries concerning this or other Medicare data collection efforts may be addressed to George Ryan, Director, Department of Physician Biographic Records, American Medical Association, 312-645-5170.

The Social Security Administration's Office of Hearings and Appeals has been given temporary jurisdiction over Part B Medicare appeals. These will be conducted according to regulations governing Part A appeals until new rules governing appeals are made public.

The Omnibus Budget Reconciliation Act of 1986 authorized administrative law judge hearings or judicial review for claims arising under Medicare Part B. When HHS developed a proposal to conduct such hearings over the telephone, Congress ordered SSA to conduct the hearings instead.

A nationwide survey of 1,400 hospital executives shows reduced Medicare reimbursements may force nearly 700 hospitals to close in the next five years.

Small, rural and government-owned hospitals are most vulnerable, said the report by Touche Ross, an accounting and management consulting firm. The report indicated suburban hospitals and hospitals owned by religious organizations also might be more likely to close.

IN INDIANA...

Beginning next July 1, physicians in Indiana who prescribe Schedule II drugs must use a triplicate prescription. The Controlled Substance Advisory Committee approved the "trips" proposal at a hearing June 24.

Michael Mellinger, M.D., Lagrange, chairman of the ISMA's Board of Trustees, was among 14 persons who testified against the proposal. Members of the advisory committee said they had received only four letters from Indiana physicians in opposition to the triplicate prescription proposal.

"Interim Guidelines for Universal Precautions," designed to assist facilities and individuals in preventing the spread of communicable diseases, including AIDS, are now available from the Indiana State Board of Health.

Physicians, hospitals and others should use the interim guidelines as a resource until the final rule on the universal precautions to be used in Indiana has been published. That rule, which was mandated by SEA 9, is expected to be forthcoming within a year and will be subject to public hearings.

Because of the lengthy rule adoption process, the interim guidelines were made available. The guidelines are subject to change as new information on AIDS is made available to public health officials. Contact the ISMA Department of Government Relations if you do not receive the interim guidelines.

In another AIDS-related matter, new guidelines have been established for life and health insurance companies regarding AIDS questioning, testing and coverage. The rule went into effect June 13.

Insurers may ask medically specific questions in their applications for coverage to determine whether to accept or rate a particular risk. They may not ask questions regarding the sexual orientation of the applicant, but may ask whether the applicant has or has been diagnosed as having a sexually transmitted disease.

Insurers may require an applicant to submit to any medical tests to determine exposure to HIV. An established test protocol must be followed and the insurer must pay for the test. If an insurer accepts a risk, the insurance policy may not include a maximum dollar amount of coverage for AIDS, nor an exclusion of coverage limited solely to AIDS.

The Infectious Waste Advisory Committee is preparing a proposed rule draft. Surveys will be sent to county medical society presidents and other health care providers to determine how infectious wastes are now stored, treated and transported.

The advisory committee is chaired by William Beeson, M.D., Indianapolis. Dr. Beeson is urging all county society presidents to respond to the survey so that physicians from all over the state will have input into how the rule is drafted. The rule will be subject to public hearings.

An interim study committee on insurance, chaired by Rep. John Keeler, R-IN, will consider in a Sept. 6 hearing how liability insurance companies make their rates and how the Indiana Department of Insurance approves rates.

The Indiana Federation of Older Hoosiers and Blue Cross/Blue Shield will sponsor a hotline beginning this month to answer Medicare recipients' questions about the catastrophic health care bill, which recently became law.

MEDICAL MUSEUM NOTES



CHARLES A. BONSETT, M.D., Indianapolis

THE BATTLE OF Chickamauga, one of the bloodiest battles of the Civil War, took place Sept. 19 and 20, 1863, in the northwest corner of Georgia. The assistant surgeon for the 17th Indiana Regiment that participated in the action was Dr. G.W.H. Kemper (1839-1927) of Muncie. Dr. Kemper was president of the Indiana State Medical Society in 1887.

On the evening of Sept. 26, 1918, the date of the beginning of the Meuse Argonne offensive that would end World War I, the Indiana State Medical Association sponsored a patriotic meeting at the Claypool Hotel in Indianapolis. Featured speakers were several Indiana physicians, including Dr. Kemper, whose talk is abstracted as follows:

The Surgeons of the Civil War

I come to you tonight as a member of the surgeons of the Civil War. I am marching with the rear guard of this almost extinct body of heroes. To their memory I would add a few words of praise. To the surgeons of the present great war I bring a message of cheer, of hope and well wishes.

Indiana sent to the Civil War 136 regiments of infantry, 13 regiments of cavalry, one regiment of heavy artillery, 25 batteries of artillery and numerous recruits.

These organizations were provided with 500 surgeons to care for the sick and wounded. One surgeon and two assistant surgeons were assigned to each regiment. In times of peril extra civilian physicians were sent to reinforce the medical department, and when the danger seemed great the governor himself went to the front to look after the welfare of the boys on the fighting line. Our great war governor, Oliver P. Morton, never forgot the men he sent out to battle for their country.

Indianapolis had a population of a little less than 17,000 inhabitants when the Civil War began. It had no

hospital, no street cars and but few of the modern conveniences of cities.

The surgeons of the Civil War met with handicaps that the surgeons of the present day will not encounter. We were not trained—the wars prior to 1861 gave us no practical experience. The surgeons of the Mexican War came home from their two years of conflict, but they bequeathed to us no printed records.

The surgeons of the Civil War assigned to the Indiana volunteers came from rural villages, and were general practitioners. So far as I can determine, there was no medical man in Indiana in 1861 who was practicing surgery exclusively. At that date there was no medical college in the state. There were few noted surgeons in the United States. Many of our surgeons had never seen inside of the abdomen of a living subject. The age of medical specialties had not dawned upon the profession.

I can only speak for Indiana, but I make no doubt that many of our surgeons of the Civil War had never witnessed a major amputation when they joined their regiments; very few of them had treated gunshot wounds. Let us be sparing of our criticism of these men. Whatever else we may say for or against the medical men of Indiana at that period I want to say for them that they were patriotic, and willingly entered the service.

Our regimental outfits were meager as compared with the present war. Our surgeons had not heard of the gospel of extreme cleanliness, as Lister did not announce his principles of antiseptic surgery until 1867—two years after the close of the Civil War.

Anesthetics were not as helpful to the surgeons of the Civil War as they are to surgeons at the present day. A distrust of anesthetics existed in the early part of the Civil War mainly due to the fact that surgeons then were not accustomed to the use of these agents. Chloroform was first used 14

years prior to the beginning of the Civil War, and its management was not so well understood when that war began. This was the agent furnished to troops in the field—rather because it took less space in transportation than ether.

We were not provided with trained nurses—male or female, as at the present day. Florence Nightingale, with a band of noble nurses went to the British army in the Crimean War in 1854, but she did not publish her book on nursing until 1859.

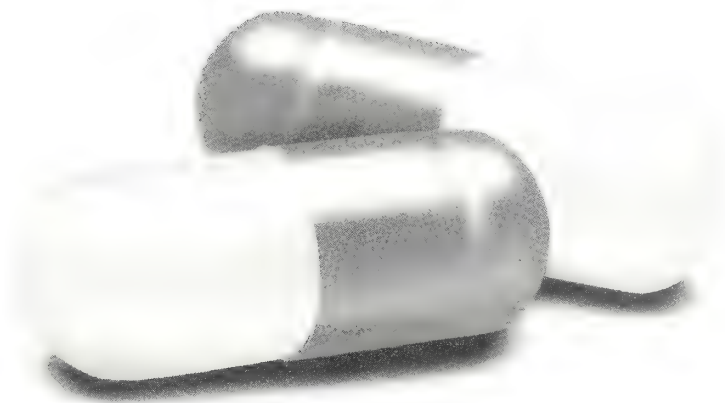
When we came to the rescue of the flag in 1861 there were 36 states in the Union, and the flag of that period carried that number of stars. Four years later when we emerged from the Civil War our great leader was a martyr, but not a star had been lost from the flag. Twenty four thousand four hundred and sixteen of the sons of Indiana gave their lives for the preservation of the Union and the honor of the flag.

Of the 500 surgeons who were commissioned by Governor Morton and went from Indiana, possibly less than one dozen remain alive. Recently, I asked in our state medical journal for the names of survivors—five answered the roll call, and I know of five others. All are old. I am about as young as any of them, and the snows of 78 winters have fallen upon my head.

Sometimes in our G.A.R. councils we “old boys of 1861 to 1865,” almost envy the young men of today who are going abroad to fight the great battle for the world’s democracy. And yet, why should we? Why desire that the shadow on the dial of history go backward ten degrees, or go forward ten degrees? Have we not lived in the greatest era of history and noble deeds?

Joel Chandler Harris says: “It is good to grow old.” I am glad that I am old and that my lot and days have

CONTINUED ON PAGE 740



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FUTURE FILE

Indiana University CME

Aug. 19-20: Trauma—Systems and Care; University Place Executive Conference Center and Hotel (formerly called the Lincoln Hotel), Indianapolis.

Sept. 14: Update 1988: Laboratory Testing in Clinical Medicine; University Place Executive Conference Center and Hotel, Indianapolis.

Sept. 23: Indiana Neonatal Society Meeting; University Place Executive Conference Center and Hotel, Indianapolis.

Sept. 26-28: Advanced Echocardiography 1988: Celebrating 25 Years of Echocardiography in America; University Place Executive Conference Center and Hotel, Indianapolis.

Sept. 29: Gastroenterology Update; University Place Executive Conference Center and Hotel, Indianapolis.

Oct. 12-13: 16th Annual Fall Symposium; "Acute Pediatric Emergencies"; University Place Executive Conference Center and Hotel, Indianapolis.

Oct. 15-16: Advanced Trauma Life Support; Tudor Auditorium, Wishard Memorial Hospital, Indianapolis.

Oct. 20: Current Management of Major Problems in Gastroenterology; Reid Memorial Hospital, Richmond.

Oct. 20-21: Third Symposium on Endothelial Seeding; University Place Executive Conference Center and Hotel, Indianapolis.

For more information on these and other CME programs, call Melody Dian, CME Assistant Director, (317) 274-8353.

Impaired Professionals

"Impaired Health Professionals: Values and Values" is the title of the AMA Ninth National Conference to be held in Chicago Oct. 26 to 30. The conference will emphasize workable solutions to problems of alcoholism, drug dependency, mental illness and stress in health professionals. A call toll-free to 1-800-621-8335 will furnish more information. Also, additional details will be mailed to all AMA members.

The *Journal of the American Medical Association* publishes a list of CME courses for the United States twice yearly. The January listing features courses offered from March through August; the July listing features courses offered from September through February.

Musculoskeletal Impairment

"Medical and Legal Perspectives on Impairment Evaluation and Disability Considerations of the Musculoskeletal System" is the title of a CME course sponsored by the University of Michigan Medical School and the University of Michigan Center for Occupational Health and Safety Engineering. The course meets Oct. 3 and 4 at the Towsley Center, Ann Arbor. For more information, write or call Betty Phillips, Office of CME, Towsley Center, Box 0201, Ann Arbor, Mich., 48109-0201—1-800-962-3555.

Diagnostic Ultrasound

The 11th Annual Seminar in Diagnostic Ultrasound, sponsored by the University of Michigan Medical School Department of Radiology, will be held Sept. 15 to 17 in Towsley Center, Ann Arbor. The program includes talks on interventional ultrasound, fetal echocardiography, and ultrasound of musculoskeletal disorders, and concludes Saturday afternoon with the Michigan vs. Miami-Florida football game. For details, call Debbie DeSmyther at (313) 763-1400 or 1-800-962-3555.

Allergies

"Allergy and Clinical Immunology" is the subject of a CME program to be held Sept. 29-30 in Madison, Wis. The program is approved for AMA Category I and AAFP credit.

Contact Sara Z. Aslakson, 2715 Marshall Court, Madison, Wis. 53705—(608) 263-2856.

Cancer Management

The American Cancer Society will conduct a National Conference on Advances in Cancer Management Dec. 7 to 9 at the Hyatt Regency Hotel, Los Angeles. For full information, write the American Cancer Society, National Conference on Advances in Cancer Management, 3340 Peachtree Road, N.E., Atlanta, Ga. 30026.

Coronary Disease

The Indiana Heart Institute is sponsoring a symposium entitled "Cardiopulmonary Rehabilitation and Prevention of Coronary Disease: Status '88 into the '90s," to be held in Indianapolis Sept. 15 and 16. For further information, contact Donna Syphers, Indiana Heart Institute, 8402 Harcourt Road, Suite 221, Indianapolis, Ind. 46260—(317) 871-6500.

TMJ Diseases

The University of Wisconsin Hospital and Clinics, Madison, Wis. is the site of an upcoming program entitled "TMJ Diseases: A Multidisciplinary Problem." To be held Sept. 16 and 17, the program is sponsored by the Continuing Medical Education and Division of Plastic and Reconstructive Surgery, University of Wisconsin Medical School. The program is accredited for nine hours AMA Category I and American Dental Association credit. For details, contact Cathy Means, Continuing Medical Education, 2715 Marshall Court, Madison, Wis. 53705—(608) 263-6637.

Cholesterol Conference

The First National Cholesterol Conference will be held Nov. 9 to 11 at the Hyatt Regency Crystal City, Arlington, Va. For details, contact The National Cholesterol Conference, 4733 Bethesda Ave., Suite 530, Bethesda, Md. 20814—(301) 951-3275.

CONTINUED ON PAGE 676

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acetate)

New — fragrance-free formula

- ☐ Avoids the #1 irritant in cutaneous reactions¹
- ☐ No methylparaben, propylparaben, or ethylenediamine
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Convenience for compliance

- ☐ b.i.d. regimen
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...and still economical

Please see facing (following) page for brief summary of prescribing information.

Systemic absorption of topical corticosteroids has produced reversible HPA suppression manifestations of Cushing's syndrome, hyperglycemia and glucosuria in some patients. Pediatric patients may demonstrate a greater susceptibility.

Reference: 1. Adams RM, Maiback HI, Clendenning WE, et al: A five-year study of cosmetic reactions. *J Am Acad Dermatol* 1986;13(6):1082-1089.



SAVAGE LABORATORIES
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Mytrex[®] CREAM AND OINTMENT, USP

(nystatin-triamcinolone acetonide)

Brief Summary of Prescribing Information

For Dermatologic Use Only
Not for Ophthalmic Use

INDICATIONS AND USAGE: For the treatment of cutaneous candidiasis, it has been demonstrated that the nystatin steroid combination provides greater benefit than the nystatin component alone during the first few days of treatment.

CONTRAINDICATIONS: This preparation is contraindicated in those patients with a history of hypersensitivity to any of its components.

PRECAUTIONS, General: Systemic absorption of topical corticosteroids has produced reversible hypothalamic-pituitary-adrenal (HPA) axis suppression, manifestations of Cushing's syndrome, hyperglycemia, and glucosuria in some patients. Conditions which augment systemic absorption include the application of the more potent steroids, use over large surface areas, prolonged use, and the addition of occlusive dressings (see DOSAGE AND ADMINISTRATION). Therefore, patients receiving a large dose of any potent topical steroid applied to a large surface area should be evaluated periodically for evidence of HPA axis suppression by using the urinary free cortisol and ACTH stimulation tests, and for impairment of thermal homeostasis. If HPA axis suppression or elevation of the body temperature occurs, an attempt should be made to withdraw the drug, to reduce the frequency of application or to substitute a less potent steroid. Recovery of HPA axis function and thermal homeostasis are generally prompt and complete upon discontinuation of the drug. Infrequently, signs and symptoms of steroid withdrawal may occur, requiring supplemental systemic corticosteroids. Children may absorb proportionally larger amounts of topical corticosteroids and thus be more susceptible to systemic toxicity (see PRECAUTIONS, Pediatric Use). If irritation or hypersensitivity develops with the combination nystatin and triamcinolone acetonide, treatment should be discontinued and appropriate therapy instituted.

Information for the Patient: Patients using this medicine should receive the following information and instructions:

1. This medication is to be used as directed by the physician. It is for external use only. Avoid contact with the eyes.
2. Patients should be advised not to use this medication for any disorder other than for which it was prescribed.
3. The treated skin area should not be bandaged or otherwise covered or wrapped as to be occluded (see DOSAGE AND ADMINISTRATION).
4. Patients should report any signs of local adverse reactions.
5. When using this medication in the inguinal area, patients should be advised to apply cream sparingly and to wear loose fitting clothing.
6. Parents of pediatric patients should be advised not to use tight-fitting diapers or plastic pants on a child being treated in the diaper area, as these garments may constitute occlusive dressings.
7. Patients should be advised on preventive measures to avoid reinfection.

Laboratory Tests: If there is a lack of therapeutic response, appropriate microbiological studies (e.g., KOH smears and/or cultures) should be repeated to confirm the diagnosis and rule out other pathogens, before instituting another course of therapy. The following tests may be helpful in evaluating hypothalamic-pituitary-adrenal (HPA) axis suppression due to the corticosteroid: Urinary free cortisol test, ACTH stimulation test.

Carcinogenesis, Mutagenesis, and Impairment of Fertility: Long-term animal studies have not been performed to evaluate the carcinogenic or mutagenic potential or possible impairment of fertility in males or females.

Pregnancy Category C: There are no teratogenic studies with combined nystatin and triamcinolone acetonide. Corticosteroids are generally teratogenic in laboratory animals when administered systemically at relatively low dosage levels. The more potent corticosteroids have been shown to be teratogenic after dermal application in laboratory animals. Therefore, any topical corticosteroid preparation should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus. Topical preparations containing corticosteroids should not be used extensively on pregnant patients, in large amounts, or for prolonged periods of time.

Nursing Mothers: It is not known whether any component of this preparation is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised during use of this preparation by a nursing woman.

Pediatric Use: In clinical studies of a limited number of pediatric patients ranging in age from 2 months through twelve years, Nystatin-Triamcinolone Acetonide Cream cleared or significantly ameliorated the disease state in most patients. Pediatric patients may demonstrate greater susceptibility to topical corticosteroid-induced hypothalamic-pituitary-adrenal (HPA) axis suppression and Cushing's syndrome than mature patients because of a larger skin surface area to body weight ratio, HPA axis suppression, Cushing's syndrome, and intracranial hypertension have been reported in children receiving topical corticosteroids. Manifestations of adrenal suppression in children include linear growth retardation, delayed weight gain, low plasma cortisol levels, and absence of response to ACTH stimulation. Manifestations of intracranial hypertension include bulging fontanelles, headaches, and bilateral papilledema. Administration of topical corticosteroids to children should be limited to the least amount compatible with an effective therapeutic regimen. Chronic corticosteroid therapy may interfere with the growth and development of children.

ADVERSE REACTIONS: A single case (approximately one percent of patients studied) of acneiform eruption occurred with the use of combined nystatin and triamcinolone acetonide in clinical studies.

Nystatin is virtually nontoxic and nonsensitizing and is well tolerated by all age groups, even during prolonged use. Rarely, irritation may occur.

The following local adverse reactions are reported infrequently with topical corticosteroids. These reactions are listed in an approximate decreasing order of occurrence: burning, itching, irritation, dryness, folliculitis, hypertrichosis, acneiform eruptions, hypopigmentation, perioral dermatitis, allergic contact dermatitis, maceration of the skin, secondary infection, skin atrophy, striae and milium.

DOSAGE AND ADMINISTRATION: Cream: Apply MYTREX[®] (Nystatin-Triamcinolone Acetonide) Cream, USP to the affected area twice daily in the morning and the evening by gently and thoroughly massaging the preparation into the skin. Ointment: A thin film of MYTREX[®] is usually applied to the affected area twice daily in the morning and evening. MYTREX[®] should be discontinued if symptoms persist after 25 days of therapy (See PRECAUTIONS, Laboratory Tests). MYTREX[®] should not be used with occlusive dressings.

Caution: Federal law prohibits dispensing without prescription.

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FUTURE FILE ...

CONTINUED FROM PAGE 674

St. Vincent Hospital CME

Sept. 9: Thirteenth Annual Arthur B. Richter Lectureship in Clinical Cardiology; Sheraton Marten House, Indianapolis.

Sept. 15-18: Cardiopulmonary Rehabilitation and Prevention of Coronary Disease: Status '88-90s, co-sponsored with Indiana Heart Institute; Hilton on the Circle, Indianapolis.

Sept. 17-18: Ultrasound Seminar; Cooling Auditorium, St. Vincent Hospital.

Sept. 22-23: GYN Laser Course; St. Vincent Hospital.

Oct. 9-11: Society of Memorial Gynecologic Oncologists meeting; Holiday Inn Union Station, Indianapolis.

For further information, call Marilyn Soltermann, CME Coordinator, St. Vincent Hospital, Indianapolis, (317) 871-3460.

Methodist Hospital CME

Sept. 23-24: Advanced Trauma Life Support Course; Methodist Hospital Auditorium.

Sept. 23-25: 4th Annual Perinatology Symposium; Four Winds, Lake Monroe, Bloomington.

Sept. 29-30: Laser Seminar; Methodist Hospital.

Oct. 17-23: Ultrasound Mini-Fellowship; Methodist Hospital Radiology Department.

Oct. 21-22: Advanced Cardiac Life Support Course; Methodist Hospital Wile Hall.

Nov. 2: Annual Lester Bibler Lecture; Methodist Hospital Auditorium.

Nov. 11-12: Advanced Trauma Life Support Course; Methodist Hospital Auditorium.

For more information, contact Dixie Estridge, Coordinator, Continuing Medical Education, Methodist Hospital, 1701 N. Senate Blvd., Indianapolis 46202—(317) 929-3733.



(ciprofloxacin HCl/Miles)



A REVOLUTIONARY ORAL ANTIMICROBIAL WITH THE POWER OF PARENTERALS

- Highly active *in vitro* against a broad range of gram-positive and gram-negative pathogens, including methicillin-resistant *Staphylococcus aureus* and *Pseudomonas aeruginosa**
- For treatment of infections in the:
 - lower respiratory tract[†]
 - urinary tract[†]
 - skin/skin structure[†]
 - bones and joints[†]
- Convenient *B.I.D.* dosage – 250 mg, 500 mg and 750 mg tablets

**In vitro* activity does not necessarily imply a correlation with *in vivo* results.

[†]Due to susceptible strains of indicated pathogens. See indicated organisms in Brief Summary.

CIPRO* SHOULD NOT BE USED IN CHILDREN OR PREGNANT WOMEN.

A history of hypersensitivity to ciprofloxacin is a contraindication to its use. A history of hypersensitivity to other quinolones may also contraindicate the use of ciprofloxacin.



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Please see adjacent page of this advertisement for Brief Summary of Prescribing Information.

Cipro[®] TABLETS

(ciprofloxacin HCl/Miles)

■ 500 mg B.I.D. for most infections;
750 mg B.I.D. for severe or complicated infections.

BRIEF SUMMARY CONSULT PACKAGE INSERT FOR FULL PRESCRIBING INFORMATION INDICATIONS AND USAGE

Cipro[®] is indicated for the treatment of infections caused by susceptible strains of the designated microorganisms in the conditions listed below.

Lower Respiratory Infections caused by *Escherichia coli*, *Klebsiella pneumoniae*, *Enterobacter cloacae*, *Proteus mirabilis*, *Pseudomonas aeruginosa*, *Haemophilus influenzae*, *Haemophilus parainfluenzae*, and *Streptococcus pneumoniae*.

Skin and Skin Structure Infections caused by *Escherichia coli*, *Klebsiella pneumoniae*, *Enterobacter cloacae*, *Proteus mirabilis*, *Proteus vulgaris*, *Providencia stuartii*, *Morganella morganii*, *Citrobacter freundii*, *Pseudomonas aeruginosa*, *Staphylococcus epidermidis*, and *Streptococcus faecalis*.

Bone and Joint Infections caused by *Enterobacter cloacae*, *Serratia marcescens*, and *Pseudomonas aeruginosa*.

Urinary Tract Infections caused by *Escherichia coli*, *Klebsiella pneumoniae*, *Enterobacter cloacae*, *Serratia marcescens*, *Proteus mirabilis*, *Providencia rettgeri*, *Morganella morganii*, *Citrobacter diversus*, *Citrobacter freundii*, *Pseudomonas aeruginosa*, *Staphylococcus epidermidis*, and *Streptococcus faecalis*.

Infectious Diarrhea caused by *Escherichia coli* (enterotoxigenic strains), *Campylobacter jejuni*, *Shigella flexneri*, and *Shigella sonnei** when antibacterial therapy is indicated.

*Efficacy for this organism in this organ system was studied in fewer than 10 infections.

Appropriate culture and susceptibility tests should be performed before treatment in order to isolate and identify organisms causing infection and to determine their susceptibility to ciprofloxacin. Therapy with Cipro[®] may be initiated before results of these tests are known, once results become available appropriate therapy should be continued. As with other drugs, some strains of *Pseudomonas aeruginosa* may develop resistance fairly rapidly during treatment with ciprofloxacin. Culture and susceptibility testing performed periodically during therapy will provide information not only on the therapeutic effect of the antimicrobial agent but also on the possible emergence of bacterial resistance.

CONTRAINDICATIONS

A history of hypersensitivity to ciprofloxacin is a contraindication to its use. A history of hypersensitivity to other quinolones may also contraindicate the use of ciprofloxacin.

WARNINGS

CIPROFLOXACIN SHOULD NOT BE USED IN CHILDREN OR PREGNANT WOMEN. The oral administration of ciprofloxacin caused lameness in immature dogs. Histopathological examination of the weight-bearing joints of these dogs revealed permanent lesions of the cartilage. Related drugs such as nalidixic acid, cinoxacin, and norfloxacin also produced erosions of cartilage of weight-bearing joints and other signs of arthropathy in immature animals of various species (SEE ANIMAL PHARMACOLOGY SECTION IN FULL PRESCRIBING INFORMATION).

PRECAUTIONS

General

As with other quinolones, ciprofloxacin may cause central nervous system (CNS) stimulation, which may lead to tremor, restlessness, lightheadedness, confusion, and very rarely to hallucinations or convulsive seizures. Therefore, ciprofloxacin should be used with caution in patients with known or suspected CNS disorders, such as severe cerebral arteriosclerosis or epilepsy, or other factors which predispose to seizures (SEE ADVERSE REACTIONS).

Crystals of ciprofloxacin have been observed rarely in the urine of human subjects but more frequently in the urine of laboratory animals. Crystalluria related to ciprofloxacin has been reported only rarely in man, because human urine is usually acidic. Patients receiving ciprofloxacin should be well hydrated, and alkalinity of the urine should be avoided. The recommended daily dose should not be exceeded. Alteration of the dosage regimen is necessary for patients with impairment of renal function (SEE DOSAGE AND ADMINISTRATION SECTION IN FULL PRESCRIBING INFORMATION).

Drug Interactions

Concurrent administration of ciprofloxacin with theophylline may lead to elevated plasma concentrations of theophylline and prolongation of its elimination half-life. This may result in increased risk of theophylline-related adverse reactions. If concomitant use cannot be avoided, plasma levels of theophylline should be monitored and dosage adjustments made as appropriate.

Antacids containing magnesium hydroxide or aluminum hydroxide may interfere with the absorption of ciprofloxacin, resulting in serum and urine levels lower than desired; concurrent administration of these agents with ciprofloxacin should be avoided.

Probenecid interferes with the renal tubular secretion of ciprofloxacin and produces an increase in the level of ciprofloxacin in the serum. This should be considered if patients are receiving both drugs concomitantly.

As with other broad-spectrum antibiotics, prolonged use of ciprofloxacin may result in overgrowth of nonsusceptible organisms. Repeated evaluation of the patient's condition and microbial susceptibility testing is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Information for Patients

Patients should be advised that ciprofloxacin may be taken with or without meals. The preferred time of dosing is two hours after a meal. Patients should also be advised to drink fluids liberally and not take antacids containing magnesium or aluminum concomitantly or within two hours after dosing. Ciprofloxacin may cause dizziness or lightheadedness, therefore patients should know how they react to this drug before they operate an automobile or machinery or engage in activities requiring mental alertness or coordination.

Carcinogenesis, Mutagenesis, Impairment of Fertility

Eight *in vitro* mutagenicity tests have been conducted with ciprofloxacin and the test results are listed below.

- Salmonella/Microsome Test (Negative)
- E. coli* DNA Repair Assay (Negative)
- Mouse Lymphoma Cell Forward Mutation Assay (Positive)
- Chinese Hamster V₇₉ Cell HGPRT Test (Negative)
- Syrian Hamster Embryo Cell Transformation Assay (Negative)
- Saccharomyces cerevisiae* Point Mutation Assay (Negative)
- Saccharomyces cerevisiae* Mitotic Crossover and Gene Conversion Assay (Negative)
- Rat Hepatocyte DNA Repair Assay (Positive)

Thus, two of the eight tests were positive, but the following three *in vivo* test systems gave negative results.

- Rat Hepatocyte DNA Repair Assay
- Micronucleus Test (Mice)
- Dominant Lethal Test (Mice)

Long term carcinogenicity studies in animals have not yet been completed.

Pregnancy - Pregnancy Category C

Reproduction studies have been performed in rats and mice at doses up to six times the usual daily human dose and have revealed no evidence of impaired fertility or harm to the fetus due to ciprofloxacin. In rabbits, as with most antimicrobial agents, ciprofloxacin (30 and 100 mg/kg orally) produced gastrointestinal disturbances resulting in maternal weight loss and an increased incidence of abortion. No teratogenicity was observed at either dose. After intravenous administration, at doses up to 20 mg/kg, no maternal toxicity was produced, and no embryotoxicity or teratogenicity was observed. There are, however, no adequate and well controlled studies in

CONVENIENT B.I.D. DOSAGE

Recommended dosage schedule

Infection Site*	Severity of Infection	Dosage
Respiratory Tract*	Mild/Moderate	500 mg B.I.D.
Bone and Joint*	Mild/Moderate	500 mg B.I.D.
Skin/Skin Structure†	Severe/Complicated	750 mg B.I.D.
Urinary Tract†	Mild/Moderate	250 mg B.I.D.
	Severe/Complicated	500 mg B.I.D.
Infectious Diarrhea*	Mild/Moderate/Severe	500 mg B.I.D.

pregnant women. SINCE CIPROFLOXACIN, LIKE OTHER DRUGS IN ITS CLASS, CAUSES ARTHROPATHY IN IMMATURE ANIMALS, IT SHOULD NOT BE USED IN PREGNANT WOMEN (SEE WARNINGS).

Nursing Mothers

It is not known whether ciprofloxacin is excreted in human milk, however, it is known that ciprofloxacin is excreted in the milk of lactating rats and that other drugs of this class are excreted in human milk. Because of this and because of the potential for serious adverse reactions from ciprofloxacin in nursing infants, a decision should be made to discontinue nursing or to discontinue the drug, taking into account the importance of the drug to the mother.

Pediatric Use

Ciprofloxacin should not be used in children because it causes arthropathy in immature animals (SEE WARNINGS).

ADVERSE REACTIONS

Ciprofloxacin is generally well tolerated. During clinical investigation, 2,799 patients received 2,868 courses of the drug. Adverse events that were considered likely to be drug related occurred in 7.3% of courses, possibly related in 9.2%, and remotely related in 3.0%. Ciprofloxacin was discontinued because of an adverse event 3.5% of courses, primarily involving the gastrointestinal system (1.5%), skin (0.6%), and central nervous system (0.4%).

The most frequently reported events, drug related or not, were nausea (5.2%), diarrhea (2.3%), vomiting (2.0%), abdominal pain/discomfort (1.7%), headache (1.2%), restlessness (1.1%), and rash (1.1%).

Additional events that occurred in less than 1% of ciprofloxacin courses are listed below. Those typical quinolone events are italicized.

GASTROINTESTINAL (See above), painful oral mucosa, oral candidiasis, dysphagia, intestinal perforation, gastrointestinal bleeding.

CENTRAL NERVOUS SYSTEM (See above), dizziness, lightheadedness, insomnia, nightmares, hallucinations, manic reaction, irritability, tremor, ataxia, convulsive seizures, lethargy, drowsiness, weakness, malaise, anorexia, phobia, depersonalization, depression, paresthesia.

SKIN/HYPERSENSITIVITY (See above), pruritus, urticaria, photosensitivity, flushing, fever, chill, angioedema, edema of the face, neck, lips, conjunctivae or hands, cutaneous candidiasis, hyperpigmentation, erythema nodosum.

SPECIAL SENSES blurred vision, disturbed vision, (change in color perception, overbrightness of lights, decreased visual acuity, diplopia, eye pain, tinnitus, bad taste).

MUSCULOSKELETAL joint or back pain, joint stiffness, achiness, neck or chest pain, flare-up of gout.

RENAL/UROGENITAL interstitial nephritis, renal failure, polyuria, urinary retention, urethral bleeding, vaginitis, acidosis.

CARDIOVASCULAR palpitations, atrial flutter, ventricular ectopy, syncope, hypertension, angina pectoris, myocardial infarction, cardiopulmonary arrest, cerebral thrombosis.

RESPIRATORY epistaxis, laryngeal or pulmonary edema, hiccough, hemoptysis, dyspnea, bronchospasm, pulmonary embolism.

Most of these events were described as only mild or moderate in severity, abated soon after the drug was discontinued, and required no treatment.

In several instances, nausea, vomiting, tremor, restlessness, agitation, or palpitations were judged to be related to elevated plasma levels of theophylline possibly as a result of a drug interaction with ciprofloxacin.

Adverse Laboratory Changes Changes in laboratory parameters listed as adverse events without regard to relationship.

Hepatic - Elevations of ALT (SGPT) (1.9%), AST (SGOT) (1.7%), alkaline phosphatase (0.8%), LDH (0.4%), serum bilirubin (0.3%).

Hematologic - eosinophilia (0.6%), leukopenia (0.4%), decreased blood platelets (0.1%), elevated blood platelets (0.1%), pancytopenia (0.1%).

Renal - Elevations of Serum creatinine (1.1%), BUN (0.9%).

CRYSTALLURIA, CYLINDRURIA, AND HEMATURIA HAVE BEEN REPORTED.

Other changes occurring in less than 0.1% of courses were: Elevation of serum gamma-glutamyl transferase, elevation of serum amylase, reduction in blood glucose, elevated uric acid, decrease in hemoglobin, anemia, bleeding diathesis, increase in blood monocytes, and leukocytosis.

OVERDOSAGE

Information on overdosage in humans is not available. In the event of acute overdosage, the stomach should be emptied by inducing vomiting or by gastric lavage. The patient should be carefully observed and given supportive treatment. Adequate hydration must be maintained. In the event of serious toxic reactions from overdosage, hemodialysis or peritoneal dialysis may aid in the removal of ciprofloxacin from the body, particularly if renal function is compromised.

DOSAGE AND ADMINISTRATION

The usual adult dosage for patients with urinary tract infections is 250 mg every 12 hours. For patients with complicated infections caused by organisms not highly susceptible, 500 mg may be administered every 12 hours.

Respiratory tract infections, skin and skin structure infections, and bone and joint infections may be treated with 500 mg every 12 hours. For more severe or complicated infections, a dosage of 750 mg may be given every 12 hours.

The recommended dosage for infectious diarrhea is 500 mg every 12 hours.

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Amyotrophic Lateral Sclerosis

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THE DIFFERENTIAL DIAGNOSIS and patient evaluation take on extreme importance in any patient with suspected ALS because of the progressive and untreatable nature of the condition. Most neurologists are relatively cautious when making such a diagnosis, usually waiting until the clinical and laboratory findings are unequivocal before declaring a firm diagnosis of ALS. A number of disorders may closely mimic ALS (*Table 1*).

Spondylosis involving the cervical and/or lumbo-sacral spine may produce lower motor neuron signs due to nerve root compression, while narrowing of the spinal canal may compress the spinal cord. A compressive myelopathy may involve the ventral horn (containing anterior horn cells) and result in lower motor neuron signs at the level of compression. Upper motor neuron signs may be seen below the level of cord compression due to involvement of descending corticospinal

NOTE: This is Part II of a two-part article on amyotrophic lateral sclerosis. Part I was published in the July issue.

tracts. Therefore, in a patient with a chronic cervical spondylosis producing a compressive myelopathy with or without compression of cervical roots, there often will be lower motor neuron signs of weakness, atrophy and fasciculations involving the upper extremities (cervical segments). There also will often be upper motor neuron signs involving the lower extremities (hyperreflexia, clonus, Babinski's sign) due to compression of the descending corticospinal tracts at the cervical level.

The distinction between cervical spondylosis and ALS is often difficult, as both conditions tend to occur more commonly in older age groups. The presence of facial, pharyngeal or tongue involvement is inconsistent with cervical spondylosis and should

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favor a lesion at least as high as the brain stem. Sensory symptoms or signs should be diligently sought and, if found, should suggest spondylosis with involvement of sensory pathways. The presence of bladder or bowel dysfunction should favor a compressive myelopathy over motor neuron disease. Imaging of the spinal cord is required in order to rule out a compressive myelopathy. Myelography or magnetic resonance scanning should include not just the cervical spine, but the thoracic and lumbar spine as well, to rule out focal or multifocal spondylosis or metastasis. An old adage suggests that no patient should die with ALS without first having imaging of the spinal cord.

A particularly notorious focal neurological lesion that can elude detection, in spite of producing severe deficits referable to the high cervical cord and low brainstem, is a lesion of the cervico-medullary junction or foramen magnum. A meningioma, Arnold-Chiari malformation or syringomyelia/syringobulbia may affect the brainstem and higher cervical cord at this location, which has been traditionally difficult to image by myelography. The advent of magnetic resonance imaging has revolutionized the detection of these lesions. Every patient with suspected ALS should be considered for investigation of the cervico-medullary junction with magnetic resonance imaging (MRI). Intrinsic spinal cord lesions from tumors, syringomyelia, ischemia and inflammation may mimic the picture of ALS as well. These patients usually have sensory, autonomic, and bladder or bowel dysfunction.

The patient with predominant upper motor neuron deficits should have the head imaged, particularly the parasagittal region, as a meningioma of the falx may compress or irritate the parasagittal motor strip from both hemispheres to produce a progressive spastic paraparesis. Historically, the "great masquerader" for central nervous system diseases has been neuro-

TABLE 1
Laboratory Evaluation and Differential Diagnosis of the ALS Patient

Evaluation	Differential
1) Electromyogram (EMG) (should be c/w active anterior horn cell disease)	Myopathy, peripheral neuropathy, neuromuscular junction disease
2) Consider spinal imaging (myelography or magnetic resonance imaging) in every patient	Spondylosis, cord compression, syring
3) Consider magnetic resonance imaging of cervico-medullary junction	Foramen magnum lesion
4) Serum and urine protein electrophoresis and immunoelectrophoresis	Gammopathy
5) Serum calcium, phosphorus to rule out hyperparathyroidism	Hyperparathyroidism
6) Thyroid function tests	Hyperthyroidism
7) Vitamin B ₁₂ level	Combined systems degeneration
8) Cerebrospinal fluid exam	Neurosyphilis, multiple sclerosis
9) Heavy metal screen (lead)	Heavy metal toxicity
10) Hexosaminidase A level in young patients or those with positive family history	Hex A deficiency

syphilis. This condition should be ruled out. Perhaps the "great masquerader" of the 1980s involving central nervous system disease will be multiple sclerosis, which can occur at virtually any age. Older patients with this condition tend to have a preponderance of spinal cord involvement and a slower progression in their course, in contrast to the more fluctuating course seen in younger patients. Neurosyphilis and multiple sclerosis can be screened with spinal fluid analysis. This may be conveniently obtained at the time of a myelogram. Evidence for multiple sclerosis is usually apparent by magnetic resonance imaging. Vitamin B₁₂ deficiency may produce prominent upper motor neuron symptoms and signs of weakness and spasticity, as part of combined systems degeneration, which classically produces dorsal column deficits in addition to corticospinal tract disease.

Several systemic disorders have

been detected in association with ALS. These include hyperparathyroidism and hyperthyroidism, both of which when treated have, on occasion, produced stability or improvement of apparent motor neuron disease.¹ Hyperparathyroidism has received particular attention due to speculation that low dietary calcium intake may initiate the disorder.²

Monoclonal gammopathy has been detected in 6% of patients in one large ALS clinic population.³ Treatment with immunosuppression (corticosteroids, antimetabolites, plasmapheresis) has been reported in some, but not all, of these patients to result in improvement of apparent motor neuron disease.^{3,4,5}

Since the earliest report of spinal muscular atrophy by Aran, interest in the potential neurotoxicity of heavy metals has persisted. Lead exposure has received the greatest attention of the heavy metals.⁶ It is well known to produce a predominantly motor

peripheral neuropathy, with a predilection for the radial nerve distribution, resulting in wrist drop. Several documented cases of apparent motor neuron disease have been associated with chronic lead intoxication. Manganese, mercury, cadmium and selenium also have been implicated.⁷

A deficiency of hexosaminidase A is best known for producing Tay-Sachs disease, but there are a few isolated reports of pure motor neuron disease, some occurring in isolation and some with a family history for other degenerative neurological disorders.⁸

A syndrome distinct from ALS, yet often difficult to differentiate early in the clinical course, is "focal" motor neuron disease. Sobue and others have described a series of patients, usually young men in their 20s or 30s, who develop subacute painless weakness and atrophy involving one limb (monomelic).^{9,10} Often the intrinsic hand muscles of one side are affected, similar to the early clinical course of ALS. However, the focal deficits become static, and progression to other limbs or cranial muscles does not occur. Electrophysiological studies are normal except for the clinically involved region. Clearly this condition carries a favorable prognosis and, therefore, should be considered in the differential of the young patient who demonstrates only focal (monomelic) abnormalities on examination and laboratory evaluation. The pathophysiology of such localized anterior horn cell disease is obscure.

Several other disorders affecting the motor unit may be confused with ALS. We have seen several patients initially diagnosed as having myasthenia gravis who actually had early manifestations of predominantly bulbar ALS. This confusion may relate in part to an apparent defect of neuromuscular transmission, which is present in active motor neuron disease. When an anterior horn cell dies, its respective muscle fibers respond to denervation by eliciting the sprouting of a new nerve terminal

from a nearby viable motor nerve. The new neurite or nerve sprout will eventually innervate these muscle fibers, but nerve conduction through the sprout and the efficiency of neuromuscular transmission are thought to be suboptimal, thereby leading to phenomena usually associated with junctional disease. Patients therefore often will describe fatigable weakness or fluctuation in their muscle power, particularly with dysarthria and dysphagia. ALS patients will not uncommonly demonstrate EMG abnormalities associated with junctional disease, including a decrement of the compound muscle action potential to slow rates of repetitive stimulation, and increased jitter with impulse blocking when studied with single fiber EMG. Furthermore, ALS patients often will note transient improvement from intravenous edrophonium or oral pyridostigmine, which is usually considered evidence for the presence of myasthenia gravis.

We also have seen patients with progressive weakness and atrophy with only equivocal fasciculations who were initially diagnosed as having ALS, only to later declare a diagnosis of a chronic inflammatory myopathy. Given the treatable nature of the inflammatory myopathies, it behooves the clinician to obtain a muscle biopsy in those patients without upper motor neuron signs, those with elevated serum muscle enzymes (creatinine kinase, aldolase), and certainly those in whom electromyography is equivocal.

The patient presenting with weakness should have a thorough neurological examination to look for evidence of upper and lower motor neuron disease and a thorough search for "non-motor system" involvement. If the findings are suggestive of ALS, the patient should have an electromyogram including nerve conduction studies and needle exam. Nerve conduction studies should rule out a peripheral neuropathy. The routine concentric needle examination should

document active denervation in the form of fibrillation potentials and evidence for chronic reinnervation in the form of a decrease in large motor unit potentials. These abnormalities should be present in multiple muscles of three different limbs while nerve conduction studies are normal or near normal. Only when these conditions are met can the electromyographer conclude that the findings are compatible with widespread active anterior horn cell disease.

Additional laboratory evaluation should include imaging of the head and spine with MRI scan, and/or myelography. Spinal fluid should be analyzed to rule out neurosyphilis and, in some cases, multiple sclerosis. Blood studies should include vitamin B₁₂ level, VDRL, thyroid function tests, calcium and phosphorus (looking for evidence of hyperparathyroidism). Because of the occasional association of heavy metal toxicity with motor neuron disease, a heavy metal screen, including lead, should be obtained. In those patients with a positive family history for motor neuron disease and those with a younger age of onset, an assay of hexosaminidase A should be considered. Evaluation for gammopathy should include not only serum protein electrophoresis, but also serum immunoelectrophoresis, urine protein electrophoresis and urine immunoelectrophoresis.

Because of the tremendous prognostic significance of making the diagnosis of amyotrophic lateral sclerosis, many specialists in neuromuscular disease recommend obtaining a second opinion on a routine basis. This serves to minimize the chance for misdiagnosis, as well as to provide reassurance to both the patient and the physician regarding the nature of the disorder.

Pathology

As suggested by the clinical manifestations, the neuropathology of ALS involves degeneration and loss of neurons in the motor cortex (Betz cells

and the large pyramidal cells from the fifth layer of the motor cortex), in the brainstem nuclei of cranial nerves V, VII, XII, and in anterior horn cells in the ventral gray of the spinal cord. Intracytoplasmic lipofuscin accumulation and astrocytic gliosis are among the nonspecific degenerative changes observed in these regions. Intracytoplasmic inclusions in motor neurons are referred to as Bunina bodies. With involvement of upper motor neurons there is degeneration of the descending corticospinal and corticobulbar tracts. Proximal portions of the motor axons develop spheroids, which contain 10 nm filaments. Although present in over half of cases, their significance is unclear. Where there is extensive involvement of anterior horn cells of the spinal cord, there is a corresponding reduction in large myelinated fibers comprising the ventral roots. This is most often observed at the cervical and lumbar levels.

More minor neuropathological changes may be found in the dorsal columns, spinocerebellar pathways and Clarke's nucleus. These "non-motor system" regions are involved more commonly and extensively in the "familial" forms of ALS. Muscle histology reveals active denervation in the form of atrophic angulated muscle fibers, along with evidence for chronic reinnervation, referred to as fiber "type grouping." These muscle biopsy abnormalities may be seen in any chronic disorder involving anterior horn cells, nerve roots or peripheral nerves. Therefore, muscle biopsy can confirm the presence of a chronic neurogenic process affecting muscle, but it is not specific for ALS.^{11,12}

Therapy

Once the diagnosis is established, the physician must establish a long-term relationship with the patient and family and provide an accurate assessment of the patient's condition and prognosis. The chronic progressive

nature of the disorder provides a need for significant long-term interaction between physician and patient. There is currently no established therapy that reverses the disease process. Nonetheless, investigational trials are abundant at major medical centers throughout the country, and such involvement may be offered to the patient.

*"There is currently
no established therapy
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disease process."*

There is often a misconception that the lack of known therapy to reverse the disease process implies that nothing can be done for the patient. However, a great deal can and must be offered to these patients, depending on their course. Some patients who experience fluctuation in their weakness may have a functional defect of neuromuscular transmission, which can be demonstrated electrophysiologically and which may improve with the use of edrophonium (Tensilon) and pyridostigmine (Mestinon). It is often helpful to try low doses of cholinesterase inhibitors and look for symptomatic improvement in power. Those patients with a pseudobulbar palsy who exhibit spontaneous crying and laughing may improve with low doses of amitriptyline. Dysphagia and pooling of saliva in the pharynx constitute a major disability and source of discomfort for many patients. Placement of a feeding gastrostomy tube is desired by many patients. Further, surgical revision of the pharynx and upper airway anatomy may promote more comfortable drainage of saliva and reduce the chance of aspiration.¹³ Physical therapy and occupational therapy play a major role in patients with significant limb weakness. Those

with severe dysarthria may improve communication skills by working with a speech pathologist. Spasticity may be reduced with the use of Valium or baclofen.

A major issue in patient management is that of respiratory failure. Patients clearly should be counseled about the progressive nature of the disorder and the eventual likelihood of respiratory insufficiency. Some patients choose to obtain long-term assisted respiration with the use of a mechanical ventilator, many of which can be operated in the home. Senator Jacob Javits of New York lived for many years with ALS, using a mechanical ventilator. An equal number of patients prefer not to be kept alive by a mechanical ventilator.

Our approach has generally been to initially clearly establish the diagnosis. We then attempt to see the patient several times in the clinic to establish a firm relationship. When this occurs and communication with the patient is well established, we openly discuss the probability of eventual respiratory insufficiency and the various options chosen by different patients in the past. We then determine the patient's basic desires regarding the use of life support systems. Often the family is intimately involved with these discussions, but in general we try to determine the patient's preference. Patients are encouraged to discuss this issue with family and, during subsequent visits to the clinic, to inform us of how they would like to be managed in the event of respiratory failure. Clearly, some patients have a definite desire to utilize or, alternatively, avoid life support systems, such as mechanical ventilation.

When the patient reaches a decision, we try to clarify that option in the medical record and to notify those physicians involved with the patient's care. Often, patients are unable to decide on how aggressively they wish to be managed. In those instances we continue to discuss the issue, but try to deal with those patients' subse-

quent clinical situations on an individual basis.

Finally, it is the obligation of the treating neurologist to counsel the patient about the many therapeutic options available in the traditional medical community, as well as the large number of non-traditional therapies. As with other chronic progressive illnesses, there are many unsubstantiated claims for successful therapy including nutritional modification involving vitamins, the use of snake venom¹⁴ and several other methods. I warn the patient and family about the plethora of non-traditional therapies lacking scientific support with which they may be confronted. I advise the patient and family to simply discuss any individual treatment option with us before making their decision. In general, we discourage expensive, unproven therapies or those potentially physically harmful. Inexpensive and physically safe therapies without established scientific benefit may provide a significant psychological boost, and we are less discouraging about involvement with those therapeutic modalities.

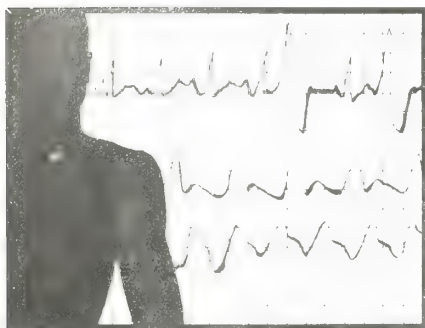
Finally, patients with ALS (perhaps because of their preserved intelli-

gence) are generally quite interested in ongoing research involving motor neuron disorders. We encourage involvement with local support groups and national or regional ALS organizations, such as the Muscular Dystrophy Association and the Amyotrophic Lateral Sclerosis Foundation.

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NOSOCOMIAL SINUSITIS



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HOSPITAL ACQUIRED infection is a major problem in the management of critically ill patients. Infection remains the second leading cause of death behind severe head injury in those trauma patients who survive beyond three days.¹ Infection is common and a frequent cause of death in acute leukemia,² Hodgkin's disease,³ and renal, cardiac or bone marrow transplantation.⁴ Hospital acquired illnesses account for a great portion of these infections.

Nosocomial infections occur in 5-8% of all hospitalized patients and a much higher percentage of critically ill or immunocompromised patients.⁵ Modern medical therapy has improved survival for critically ill patients through major advances in monitoring and support systems, but not without some major drawbacks.

The high prevalence of nosocomial infections exists because of the plethora of intravenous catheters, tracheal intubation tubes, urinary catheters and nasogastric tubes that allow bacteria in the hospital environment to gain a foothold in the patient. The necessity of this invasive care and the ramifications of the natural course of these infections make it crucial that a thorough work-up is undertaken to identify the source.⁶ A frequently overlooked source of fever is sinusitis.

The incidence of sinusitis as a nosocomial infection is reported be-

tween 5-6%.⁷ Arens, *et al.* in 1974 reported a retrospective incidence of 2% in a review of 200 consecutive patients nasotracheally intubated for less than 72 hours in the course of the treatment of a cardiovascular disorder.⁸ O'Reilly, *et al.* found a 26% incidence of sinusitis in patients nasotracheally intubated more than five days.⁹ The most frequent pattern of sinus involvement is a unilateral maxillary infection occurring approximately 60% of the time. This is followed by bilateral maxillary sinusitis (22%) and pansinusitis (18%).⁷ The overall incidence in ICU patients may be higher because they represent a diagnostic challenge. The usual physical findings and symptoms are unobtainable in an obtunded patient on the ventilator. Therefore, unless the diagnosis is sought, it may be overlooked.

Reports of nosocomial sinusitis first appeared in the anesthesia literature in the early 1970s.^{8,10} Several independent observers noted a frequent association of sinusitis in patients with prolonged nasotracheal intubation. As other reports developed, several salient features of nosocomial sinusitis became apparent. There is an association with development of hospital acquired sinusitis and nasotracheal intubation, nasogastric tubes, maxillofacial trauma, broad spectrum antibiotics, corticosteroids and an immunocompromised status (Table 1).¹¹

Nasal tubes cause obstruction of the natural sinus ostium either by mechanical obstruction or local irritation and edema.⁹ This blockage impedes the normal mucociliary clearance and aeration of the sinus. The development of a closed space with retained secretions colonized with hospital flora leads to sinusitis. Retained blood in the sinuses from maxillo-

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facial trauma is also felt to increase the risk of sinusitis. Broad spectrum antibiotics select out resistant hospital flora and other unusual pathogens. Individuals immunocompromised either secondary to drugs (i.e., steroids or chemotherapy) or chronic disease are at a greater risk for the development of nosocomial sinusitis because of weak natural defenses (*Table 1*).

Diagnosis

The diagnosis of outpatient sinusitis is made on the basis of clinical signs and symptoms. This may represent headache, facial pain, dental pain, purulent nasal discharge and/or facial tenderness. This information is unobtainable from most critically ill patients. The work-up of the febrile intensive care patient appears to have endless avenues because of the multiple possible sources. The diagnosis of sinusitis depends upon thinking of it as a possibility.

Once identifying a high risk patient, the two most common presenting signs are purulent nasal drainage (25%) and abnormal paranasal sinus x-rays (either plain films or CT scan).^{7,11} In several reports radiologic studies were frequently obtained for other reasons only to serendipitously show sinusitis.^{9,11} Some authors advocate plain paranasal sinus x-rays on all febrile high risk patients without an obvious source for their fever.^{7,12,13}

The accuracy of plain films depends on their ability to show either opacification or an air-fluid level. This requires quality studies. On outpatients the accuracy of five view studies alone is approximately 88%, but it falls to 24% with only four views.¹⁴ Plain films are very difficult and time consuming to obtain on ICU patients.

Paranasal sinus CT scans are clearly recognized as much more sensitive in defining the status (i.e., air filled, thickened mucosa, airfluid level, opacification, etc.) of a sinus, particularly when concerned about the ethmoid or sphenoid sinuses. While incredibly sensitive, the CT scan is not

TABLE 1
Risk Factors for
Nosocomial Sinusitis

1. Nasotracheal tube
2. Nasogastric tube
3. Maxillofacial trauma
4. Broad spectrum antibiotics
5. Immunocompromised host

acutely specific in the diagnosis of infection in ICU patients. In other words, while it may show opacification, this does not necessarily equate with infection and source of fever. This is especially true in patients with relatively recent maxillofacial trauma where opacification may represent either retained blood or infection or both.

Maxillary sinus aspiration and or irrigation gives the critical information about the nature of radiographic sinus changes. Obtained either through an inferior meatal or canine fossa approach, the material returned can be gram stained and cultured. This provides a diagnosis and suggests a therapeutic plan. Taking it one step further, a nasoastral window will accomplish both diagnosis and treatment (*Table 2*).

Microbiology

In outpatient maxillary sinusitis, the two most frequently recovered organisms are *Streptococcus pneumoniae* and *Haemophilus influenzae* in 64% of 105 cases. Other common pathogens are anaerobes (12%), viruses (16%), and mixed infections (5%).¹⁵ These organisms were much

less frequently found in cases of nosocomial sinusitis. The bacteriology in these cases is split about 60/40 between gram-negative rods and gram-positive cocci. Caplan, *et al.* reported 41 pathogens recovered from 25 patients. The most common pathogen was *Pseudomonas aeruginosa* isolated in 12 cases. Other gram-negative rods including *Klebsiella*, *Proteus*, *Enterobacter*, *E. Coli*, and *Bacteroides* accounted for 23 cases. The most common gram-positive cocci were *Beta-Hemolytic Streptococcus* (not group A) and *Staphylococcus aureus*. They also noted 14 polymicrobial infections.⁷ Recovery of anaerobes has been inconsistent.

The progression of sinusitis to sepsis has been documented by several reports in which the same bacterium was recovered from blood and sinus cultures.^{9,10,11,12} The development of sepsis secondary to maxillary sinusitis is unique to nosocomial infections and is probably related to the varied bacteriologic spectrum and severely obstructed nature of the sinus. Complications secondary to sinusitis are more frequently associated with frontal, ethmoid and sphenoid sinuses. An additional frequent characteristic of reported cases of simultaneous sepsis and sinusitis was an immunocompromised status primarily from administered corticosteroids. These agents were generally given to treat some other problem (i.e., head injury). These associations emphasize the complex nature of sinusitis can develop in the immunocompromised host.

Treatment

Crucial to effective treatment of nosocomial sinusitis is early recognition. To achieve early recognition one must first think of the possibility of nosocomial sinusitis as the etiology of a fever. There is a consistently reported delay of 7-10 days from development of fever to a diagnosis of sinusitis.^{9,10,11,12,13} In those patients at high risk (*Table 1*), nosocomial sinusitis should be included in the initial dif-

TABLE 2
Diagnosis of Nosocomial Sinusitis

1. Purulent nasal drainage
2. Abnormal x-ray
 - i. Plain films
 - ii. CT scan
3. Sinus aspiration

ferential diagnosis of any unexplained fever. The importance of early recognition and initiation of treatment appears to be related to a greater effectiveness in the medical management of this problem.

Treatment should proceed with the removal of all nasal tubes and the initiation of aggressive topical nasal vasoconstriction. A good set of paranasal sinus x-rays should be obtained and, if either total opacification or an air-fluid level exists, an antral aspiration with irrigation should be performed for gram stain and culture. If the plain films are of poor quality or some concern about ethmoid or sphenoid infection or a possible sinusitis complication exists (i.e., orbital, cavernous sinus or intracranial), then a CT scan should be obtained.

Appropriate antibiotic coverage is started empirically or based on the gram stain. Caplan, *et al.* noted an 80% resolution of fever within 96 hours with these basic maneuvers. They also reported that 59% of the x-ray changes reversed to normal.⁷ If there is no improvement in 96 hours or the clinical course worsens, surgical drainage should be undertaken. O'Reilly, *et al.* report prompt reversal of a septic course in four of six patients treated with surgical drainage after initial medical treatment failed (Table 3).⁹

Several authors have documented a preference to nasotracheal over orotracheal intubation in those patients who require protracted airway support.^{16,17,18} It provides improved stability, better tolerance, easier management of oral secretions and fewer laryngotracheal complications. To prevent nosocomial sinusitis in patients who require extended nasal intubation, place the initial tube after adequate nasal vasoconstriction. Try to use the smallest caliber tube possible. Continue to use topical nasal

TABLE 3
Treatment of Nosocomial Sinusitis

1. Remove nasal tube
2. Topical vasoconstriction
3. Directed antibiotic therapy
4. Possible surgical drainage

vasoconstrictors around the tube. Proceed with a tracheostomy or change to an orotracheal tube after 5-7 days in those patients who will require longer support. Obtain x-rays when purulent drainage or fever develop and remove the tube if x-rays are positive.⁹

Summary

Albeit this paper takes a narrow-minded look at the perplexing problem of fever and sepsis in a complex group of patients, the reality of nosocomial sinusitis and the general ease with which it can be treated make its recognition important. It accounts for approximately 5% of all nosocomial infections in the ICU and occurs in over 25% of patients nasotracheally intubated for longer than 5-7 days. Diagnosis can be made with the assistance of x-rays and sinus aspiration. The organisms recovered are different from outpatient sinusitis, and early medical treatment is usually effective.

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Aortic Surgery Complicated By Horseshoe Kidney

MARTIN D. BOMALASKI, M.D.¹

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AS OF 1984, there were fewer than 60 reported cases of abdominal aortic aneurysm resections with an associated horseshoe kidney.¹ Arteriosclerotic abdominal aortic aneurysms have been found in up to 2% of consecutive postmortem examinations.² The horseshoe kidney occurs in 0.25% of the population with a two-to-one man to woman predominance. While arteriosclerotic lesions are associated with aging and are therefore found in older patients, horseshoe kidneys are more commonly discovered in children due to an association with other congenital anomalies.³ Both conditions are commonly asymptomatic and, as such, their association may often go undiagnosed.

Most cases of abdominal aortic aneurysm with an associated horseshoe kidney can be successfully resected; however, optimal management requires knowledge of the vascular supply and, if possible, preoperative diagnosis of the condi-

tion. Two cases of abdominal aortic aneurysm and one of abdominal aortic occlusive disease are presented requiring renal artery reimplantation associated with horseshoe kidney, followed by a discussion of the difficulties encountered in managing such patients.

Case 1

A 66-year-old white man presented with the complaint of right lower quadrant abdominal pain. An intravenous pyelogram was performed which revealed a horseshoe kidney. The patient denied urinary tract symptoms. Because appendicitis could not be ruled out, an exploratory laparotomy was done which revealed a 7 cm. abdominal aortic aneurysm, an umbilical hernia, a normal appearing appendix and a horseshoe kidney. The umbilical hernia was repaired, and he was transferred to St. Vincent Hospital in Indianapolis.

An aortogram revealed a fusiform abdominal aortic aneurysm, with the right renal artery arising from the aneurysm (*Figures 1 and 2*). The patient continued to have abdominal pain and nausea and developed a wound dehiscence. The appendix, which demonstrated mild serosal inflammation, was removed at time of repair. One month later, the wound was debrided and aneurysm resection was postponed.

One month later, he was admitted for elective resection of his aneurysm. His urine analysis, CBC and BUN were within normal limits. A CT scan confirmed the presence of a large abdominal aortic aneurysm and a horseshoe kidney. A second intravenous pyelogram revealed bilateral function and no discernable calyceal drainage

of the isthmus of the horseshoe kidney (*Figures 3 and 4*).

At surgery, the aneurysm and the horseshoe kidney were identified, and the ureters were dissected. The aneurysm measured 11 cm. in diameter and extended both above and below the kidney. The right renal artery originated from the aneurysm as seen on the arteriogram. No further anomalous vessels were identified. However, when the isthmus of the kidney was dissected from the aorta, considerable bleeding was encountered, requiring suture ligatures and staples.

During resection of the aorta, the right renal artery and a patch of the aorta at the origin of the artery were dissected away. This patch was subsequently sutured to the right limb of the aortic graft. Pulsatile flow was re-established to the right kidney after an ischemic time of one hour. The patient received 20 units of whole blood and was re-infused with four units from the cell saver. His urine output was excellent throughout. His post-operative course and follow-up have been without complications, except for a prominent thoracic aorta and hiatal hernia symptoms. Renal function has remained normal for three years.

Case 2

A 65-year-old man was evaluated by his family physician for epigastric pain and was found to have an abdominal aortic aneurysm. An upper GI series revealed an active duodenal peptic ulcer and slight anterior displacement of the stomach and proximal jejunum thought to be due to a retroperitoneal mass.

The patient was admitted to St. Vincent Hospital one month later for

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FIGURE 1



FIGURE 2



FIGURE 3



FIGURE 4

elective resection of his aneurysm. An aortogram confirmed the diagnosis of a 4 cm. fusiform abdominal aneurysm and mild bilateral renal artery stenosis (*Figure 5*). Admitting laboratory studies were within normal limits.

On exploration, a horseshoe kidney was observed. The isthmus of the horseshoe kidney was 6 cm. thick. The ureters were medially displaced. Both renal arteries originated superior to the aneurysm. During dissection of the isthmus from the aorta, a large artery thought at first to represent the middle sacral artery was noted and ligated. No renal ischemic changes were noted. The limbs of the aortic graft were tunneled under the isthmus, and proximal and distal anastomoses were done in the usual fashion. An accessory right renal artery was ligated.

The patient had good urinary output throughout. No blood was given. The patient's postoperative course and follow-up have remained uneventful for one year.

Case 3

A 54-year-old woman presented for evaluation of a five-year history of bilateral lower extremity claudication. She had a myocardial infarction one year before and a three year history of hypertension. An aortogram revealed distal abdominal aortic occlusion with good collateral flow and a horseshoe shaped kidney with an anomalous artery running from the narrowed distal aorta to the isthmus of the kidney (*Figure 6*). Note was also made of a 90% stenosis of the left renal artery.

Admission laboratory values were remarkable for an elevated leukocyte count of 12,900 and a cholesterol level of 338 mg/dl (normal 110-250 mg/dl). Other laboratory values were within normal limits.

At operation, the isthmus of the kidney was dissected from the aorta, forming two retroperitoneal tunnels. No unusual vessels were noted other than the artery previously seen on



FIGURE 5

arteriogram. This vessel was left undisturbed. The proximal portion of the Gore-tex aortic graft was then anastomosed to the aorta. The limbs of the graft were passed posterior to the isthmus of the kidney and through the retroperitoneal tunnels. Bilateral profunda femoris artery anastomoses were made. The origin of the left renal artery was ligated and a bypass with a Gore-tex graft completed.

The patient received two units of whole blood during the operation. Postoperative renal scan and pyelogram revealed prompt visualization of the right and left aspects of her kidney

with normal renogram curves. Her postoperative course and follow-up have been without incident, and she continues to have normal renal function 24 months later.

Discussion

The horseshoe kidney is an anomaly that occurs between the fourth to sixth week of gestation after the ureteral bud has entered the renal blastema, but before rotation and renal ascent. The fusion usually occurs before the kidneys have rotated along their long axis and, in addition, migration is usually incomplete (*Figure 7*).

It is assumed that the inferior mesenteric artery restricts the isthmus from further ascent.³

The most common type of horseshoe kidney is that in which the isthmus is caudad and the concavity is cephalad. In up to 10% of cases, this is reversed.¹ The isthmus is usually ventral to both the aorta and vena cava, but it may pass between them or even behind both vessels.² The isthmus is most commonly made up of renal parenchyma, but on occasion is a fibrous band. When the isthmus is made up of functioning renal tissue, it is more prone to have an anomalous arterial supply arising from the aneurysm.⁴

The vascular pattern of horseshoe kidney with aortic aneurysm may be broken down into three groups.^{1,5,10} Group I consists of normal vascular distribution and occurs in 20%-30% of cases. Group II, occurring 60% of the time, represents minor renovascular abnormalities such as renal arteries arising partly or completely inferior to the aneurysm (10%), isthmic arteries arising from the aneurysm (30%) or one or more main renal arteries originating from the aneurysm (20%). Group III represents major renovascular abnormalities such as multiple arteries arising from the aneurysm and occurs in 5%.

Nearly one-third of patients with a horseshoe kidney remain asymptomatic. When symptoms are present, they are usually manifest as vague abdominal pain secondary to hydronephrosis, infection or stone formation.³ Approximately 13% of patients with horseshoe kidneys have a persistent urinary tract infection.⁶ Resection can be further complicated by anterior displacement of the ureters, as in case number 2.

Division of the renal isthmus is controversial. When it is thin and fibrous, it can be divided with impunity. However, when it is composed of functioning renal parenchyma, its division may be complicated by formation of a urinary fistula or by causing a graft



FIGURE 6

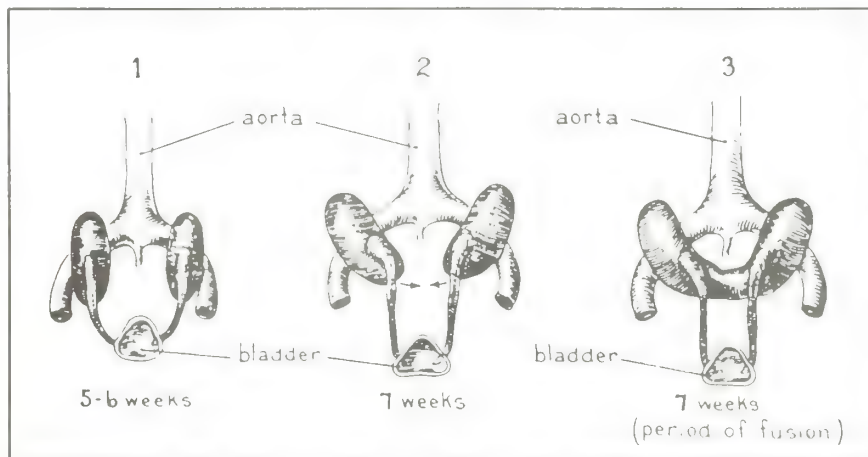


FIGURE 7: Embryonic development of the horseshoe kidney.

infection from infected urine.^{1,4,5} Review of the literature has shown that these complications are not common and that the isthmus usually can be safely resected.^{7,8}

Vital factors in patient management are preoperative diagnosis and knowledge of the anomalous blood supply. Some authors recommend routine preoperative intravenous pyelogram as well as arteriogram. Yet even with these studies, the diagnosis can be missed.⁹ In case number 2, the horseshoe kidney was not picked up on the arteriogram or by ultrasound. Fifty percent of these cases are diagnosed preoperatively. It is generally agreed that most accessory arteries are best treated with reimplantation. The most severe case is in Group III, in which there are multiple small arteries originating from the aneurysm. In such cases, the aneurysm may be unresectable.^{1,4,7,9} The operative mortality for aortic resection with a horseshoe kidney is 4.3%.⁷ It is less than 3% for a simple resection. There have been eight reported cases of ruptured abdominal aortic aneurysm with an associated horseshoe kidney, with two deaths.^{10,11}

Conclusion

The presence of a horseshoe kidney can significantly alter the surgical approach for resection of an abdominal aortic aneurysm. Renovascular patterns can range from normal vascular distribution to multiple anomalous arteries, precluding resection. The majority of aortic aneurysms associated with the presence of a horseshoe kidney can be successfully managed surgically by resection or bypass (Figure 8).

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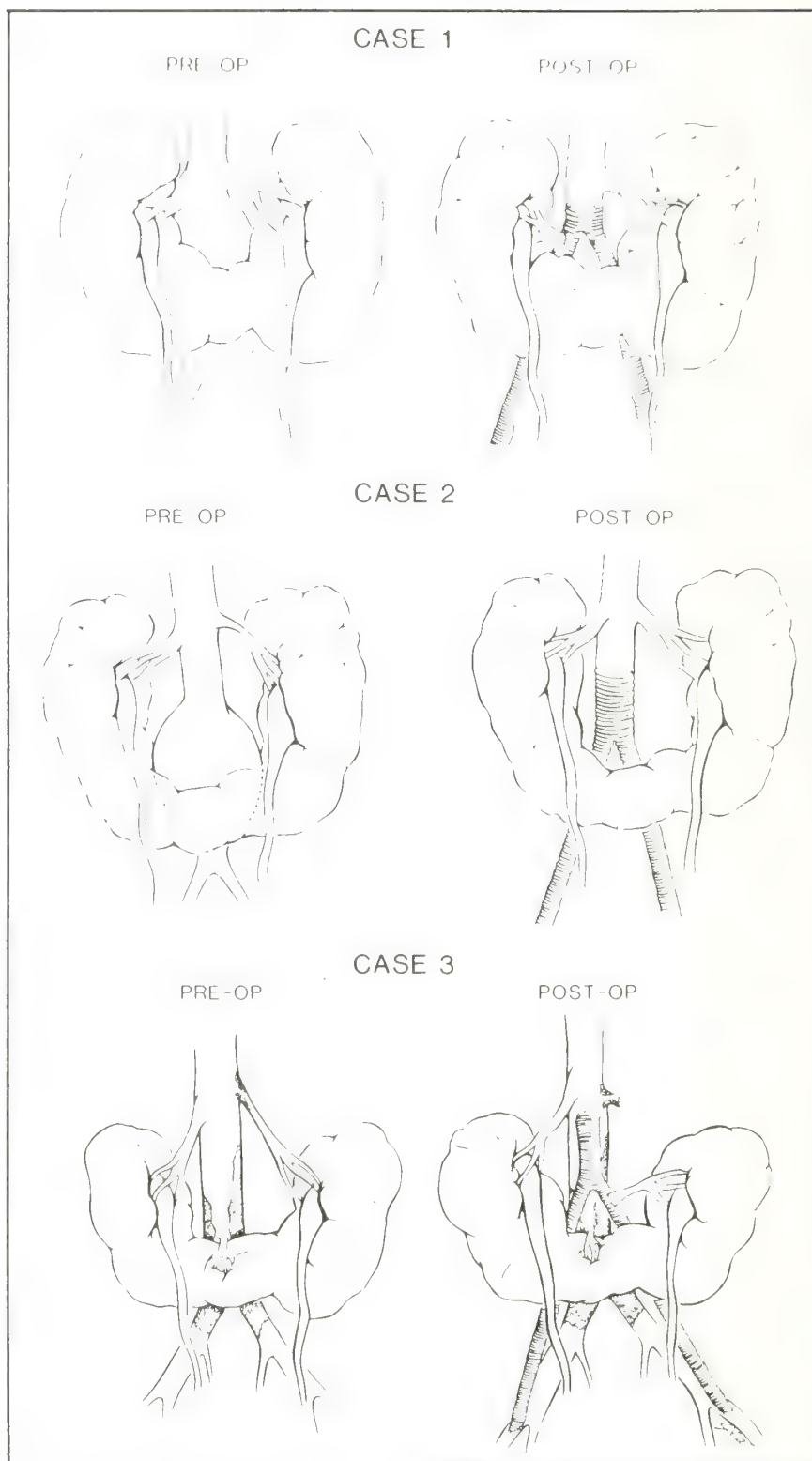


FIGURE 8

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A CHALLENGE TO SURGEONS

Guest Editorial

Although rare, the combined findings of an aortic aneurysm and horseshoe kidney present a challenge to the vascular and urologic surgeon. Preoperative recognition then requires an extensive radiographic evaluation. The vascular pattern should be as well defined as possible by arteriography. CT scanning may be extremely helpful to diagnose the presence of horseshoe kidney and will help delineate the thickness of the isthmus but will not identify the blood supply. Accessory and multiple anomalous origins of arteries are the usual, and normal vascularity the exception. If at the time of surgery it is necessary to divide the isthmus, an understanding of the segmental blood supply

will minimize blood loss, loss of parenchyma and avoidance of injury to the collecting system. The point of separation is not necessarily the anatomic center of the isthmus. Because of the fusion of the inferior poles, the collecting system is malrotated, and the ureteropelvic junction is more lateral and anterior than normal. The ureters are also more lateral than usual in their upper portions. Injection of methylene blue through the arteries supplying the inferior pole and isthmus may help delineate the correct line of division.

I congratulate the authors on their management and success of treatment of these interesting cases.—Daniel M. Newman, M.D., Indianapolis.



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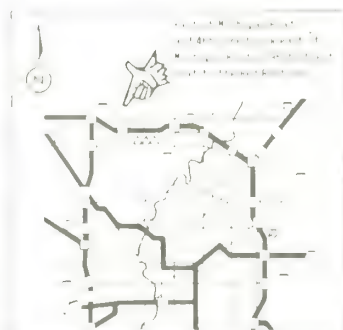
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Precautions, General.—1 Symptomatic response to nizatidine therapy does not preclude the presence of gastric malignancy.

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3 Pharmacokinetic studies in patients with hepatorenal syndrome have not been done. Part of the dose of nizatidine is metabolized in the liver. In patients with normal renal function and uncomplicated hepatic dysfunction, the disposition of nizatidine is similar to that in normal subjects.

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Carcinogenesis, Mutagenesis, Impairment of Fertility.—A two-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect. There was a dose-related increase in the density of enterochromaffin-like (ECL) cells in the gastric oxyntic mucosa. In a two-year study in mice, there was no evidence of a carcinogenic effect in male mice, although hyperplastic nodules of the liver were increased in the high dose males compared to placebo. Female mice given the high dose of Axid (2,000 mg/kg/day, about 330 times the human dose) showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no numerical increase seen in any of the other dose groups. The rate of hepatic carcinoma in the high dose animals was within the historical control limits seen for the strain of mice used. The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrement

compared to concurrent controls, and evidence of mild liver injury (transaminase elevations). The occurrence of a marginal finding at high dose only in animals given an excessive, and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 360 mg/kg/day, about 60 times the human dose), and a negative mutagenicity battery is not considered evidence of a carcinogenic potential for Axid.

Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, and the mouse lymphoma assay.

In a two-generation, perinatal and postnatal fertility study in rats, doses of nizatidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny.

Pregnancy—Teratogenic Effects—Pregnancy Category C.—Oral reproduction studies in rats at doses up to 300 times the human dose, and in Dutch Belted rabbits at doses up to 55 times the human dose, revealed no evidence of impaired fertility or teratogenic effect, but, at a dose equivalent to 300 times the human dose, treated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights. On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac enlargement, coarctation of the aortic arch, and cutaneous edema in one fetus and at 50 mg/kg it produced ventricular anomaly, distended abdomen, spina bifida, hydrocephaly, and enlarged heart in one fetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Nizatidine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers.—Nizatidine is secreted and concentrated in the milk of lactating rats. Pups reared by treated lactating rats had depressed growth rates. Although no studies have been conducted in lactating women, nizatidine is assumed to be secreted in human milk, and caution should be exercised when nizatidine is administered to nursing mothers.

Pediatric Use.—Safety and effectiveness in children have not been established.

Use in Elderly Patients.—Ulcer healing rates in elderly patients are similar to those in younger age groups. The incidence rates of adverse events and laboratory test abnormalities are also similar to those seen in other age groups. Age alone may not be an important factor in the disposition of nizatidine. Elderly patients may have reduced renal function.

Adverse Reactions. Clinical trials of nizatidine included almost 5,000 patients given nizatidine in studies of varying durations. Domestic placebo-controlled trials included over 1,900 patients given nizatidine and over 1,300 given placebo. Among the more common adverse events in the domestic placebo-controlled trials, sweating (1% vs 0.2%), urticaria (0.5% vs < 0.01%), and somnolence (2.4% vs 1.3%) were significantly more common in the nizatidine group. A variety of less common events was also reported, it was not possible to

determine whether these were caused by nizatidine.

Hepatic.—Hepatocellular injury, evidenced by elevated liver enzyme tests (SGOT [AST], SGPT [ALT], or alkaline phosphatase), occurred in some patients possibly or probably related to nizatidine. In some cases, there was marked elevation of SGOT, SGPT enzymes (greater than 500 IU/L), and in a single instance, SGPT was greater than 2,000 IU/L. The overall rate of occurrences of elevated liver enzymes and elevations to three times the upper limit of normal, however, did not significantly differ from the rate of liver enzyme abnormalities in placebo-treated patients. All abnormalities were reversible after discontinuation of Axid.

Cardiovascular.—In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in two individuals administered Axid and in three untreated subjects.

Endocrine.—Clinical pharmacology studies and controlled clinical trials showed no evidence of antiandrogenic activity due to Axid. Impotence and decreased libido were reported with equal frequency by patients who received Axid and by those given placebo. Rare reports of gynecomastia occurred.

Hematologic.—Fatal thrombocytopenia was reported in a patient who was treated with Axid and another H₂-receptor antagonist. On previous occasions, this patient had experienced thrombocytopenia while taking other drugs.

Integumental.—Sweating and urticaria were reported significantly more frequently in nizatidine than in placebo patients. Rash and exfoliative dermatitis were also reported.

Other.—Hyperuricemia unassociated with gout or nephrolithiasis was reported.

Overdosage. There is little clinical experience with overdosage of Axid in humans. If overdosage occurs, use of activated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy. Renal dialysis for four to six hours increased plasma clearance by approximately 84%.

Test animals that received large doses of nizatidine have exhibited cholinergic-type effects, including lacrimation, salivation, emesis, miosis, and diarrhea. Single oral doses of 800 mg/kg in dogs and of 1,200 mg/kg in monkeys were not lethal. Intravenous LD₅₀ values in the rat and mouse were 301 mg/kg and 232 mg/kg respectively.

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Coccygodynia in Women

FRANK W. PEYTON, M.D.
Lafayette

COCYGYDYNIA IS a painful symptom complex involving the coccyx and surrounding structures. This term was coined in 1859 by Sir James V. Simpson.¹ Trauma is a primary cause, usually from a fall or a direct blow, and not infrequently from injury sustained during childbirth. Thiele² is credited as the first to attract attention to the clinical importance of this spasm.

The condition is found primarily in women, because men have a protective anatomy; a man's ischial tuberosities are closer together, with the sacrum curving forward, protecting the coccyx. The National Library of Medicine lists more than 60 articles about coccygodynia. Unfortunately, there is a scarcity of articles published by general physicians, obstetricians and gynecologists.

I became acquainted with coccygodynia in 1950 from Dr. Thiele. He described the therapeutic technique of digital massage through the rectum. I began using digital massage with gratifying success.

Methodology and Findings

I studied the records of the 3,000 patients in my active gynecologic practice of the past 10 years. One hundred eighty patients described symptoms and/or findings relevant to this study.

Patients' ages at time of discovery ranged from 18 to 81 years. Only six

Acknowledgment: The author is indebted to Beverly J. Crowden, R.N., and Eleanor J. Smith, R.N., for their perseverance in searching the clinic records for this study.

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Abstract

Coccygodynia is an agonizing condition that involves the coccyx and surrounding structures. Its primary cause is trauma from a fall, direct blow or childbirth. It is encountered most often in women and thin persons. Pain is almost invariably precipitated on sitting, and coexisting conditions can exacerbate the discomfort. A

were under age 20. Weight was of some significance, in that 66% were considered under average weight for their height, 18% were of average weight, and only 16% were overweight.

Seven patients had never been married. Nineteen were nulliparous, 20 had delivered once, and the rest had two or more vaginal deliveries.

Eighty percent were considered stable or only mildly stressed, with the remaining 20% noted to be under moderate to severe emotional stress.

One hundred twelve women specifically connected the complaint with an injury, most often a fall on the buttocks. Ten others reported pain following delivery, with an obvious history of a difficult second stage labor. Seven had injury from vehicle accidents or a direct blow sustained during physical abuse.

Associated or coexisting complaints were low backache, as reported by 36%; pelvic pressure, 20%; painful bowel movements or rectal spasm, 11%; and dyspareunia from vaginal wall pain, 7%.

Sitting and traveling were reported as the greatest pain aggravators. Biking, situps, bending, lifting, sneezing, stair climbing and menses were mentioned as making it worse.

Ninety-six percent were treated by massage. Of those followed for one to

retrospective study of the records of 3,000 patients in a private gynecologic practice revealed that 180 women had symptoms of this condition. After digital massage of the affected area, 61.5% were cured and 27% were improved. Thus, digital massage is an effective treatment for this painful condition. Surgery is indicated only when conservative management fails.

22 years after massage, 61.5% were cured, 27% were improved, and 11.5% were not improved. Three of the unimproved were referred to an orthopedist for coccygectomy using the Gardner³ technique with success.

Before coming to me with this complaint, many of the women in whom the pain had become chronic had sought relief elsewhere, believing it was not an obstetric or gynecologic problem. A variety of methods had been tried by the therapists, including local injections, chiropractic adjustments, warm water soaks, enemas, acupuncture, rubber cushions, pelvic floor exercises, and analgesics or tranquilizers. A few patients had even become resigned to living with it.

Anatomy. The coccyx is a triangular bone resembling the cuckoo's beak (Latin, from the Greek *kokkyx*, a cuckoo). It consists of three to five segments, the first and largest of which articulates with the end of the sacrum by means of a layer of cartilage. Hyperflexion and hyperextension are positions of significance.

The structures that constitute the sacral, coccygeal and rectal regions are richly supplied by the coccygeal and sacral nerve plexuses. The sciatic nerve passes above, below or through the piriformis at the obturator foramen.

Etiology and Pathology. A fall on the

buttocks is the most frequent. Injuries sustained during such varied athletic activities as skiing, bicycling, snowmobiling, tobogganing and judo have been reported. One patient in this series had been a gymnast. Poor posture during sedentary activity can cause or aggravate the injury, as can wearing blue jeans that are too tight. The syndrome is a musculo-neuro-fascial joint disruption.

Coccygodynia may become chronic. The residual damage may provoke pain months or even years later.⁴

Delivery, if especially difficult, forcibly disrupts the anatomy, particularly when there is a fixed forward angulation of the coccyx. During second-stage delivery, the post-injury fixed hyperflexion may be forced backward far enough to fracture. Injury to the muscles of the pelvic floor is relatively common, resulting in muscular spasm and tenderness. Sitting pain may develop days or even weeks later. This woman may be crippled for life. Fortunately, dystocia caused by the infant being forced against a fixed hyperflexed coccyx is, for the most part, relegated to the past by the judicious use of cesarean section. It is essential to rule out genital, rectal and spinal diseases that may require another form of treatment. Radiographic analysis may be useful if there is any pathologic alteration of bone, but the more prevalent injury to ligaments or muscles cannot be seen.⁵

Nontraumatic cases have been published but are less common and are not included in this series. Such cases include anorectal disease, tumors, arthritis, malformation, herniated intervertebral discs, bursitis, subluxations or arachnoiditis.

Treatment. In the acute state, at time of injury, treatment consists of analgesics, ice, heat, rest, a pillow, or a sponge rubber cushion. This initial pain usually disappears in a few days, only to recur in the future. Massage should never be used in the acute state.

Digital massage is the treatment of choice for chronic cases.⁶ With full length insertion of the finger in the rectum, the clinician finds the offending spot, then presses in a lateroposterior direction across the surfaces of the levator ani and coccygeous muscles. These muscles are then stroked laterally in the long direction of their fibers. If the vagina is relaxed, such as in the multipara, the massage can be done vaginally rather than rectally.

The clinician starts gently, then becomes firmer in moving over the affected areas. This massaging back and forth relieves the spasms of the involved muscles and loosens the tension from the scar and ligaments. The high piriformis, if involved, can be reached with the fingertip. The kneading or thorough-going massage should take one to two minutes. It may be necessary to repeat the procedure once a week until the patient reports sustaining relief. Although the treatment may be exquisitely painful initially, in most instances the patient is able to sit on a hard chair without discomfort immediately following the procedure. An expression of gratitude from relief of pain is common.

When massage fails to relieve coccygodynia, coccygectomy is indicated. Gardner³ described an improved removal technique, the advantages being minimal tissue destruction, less chance of infection, and avoidance of injury to the rectum.

Any chronic spasm can create a state of tension. One consequence can be a vicious pain-spasm-pain cycle. Too frequently, physicians label patients who complain of this ongoing, seemingly untreatable pain as neurotic, hypochondriacal or hysteric, but those who have studied these patients and their complaints state emphatically that this is not true.^{3,7} In this series, no patients with coccygodynia were referred for psychiatric evaluation or therapy. Coccygodynia hurts!

Conclusions

It is as true today as when previous-

ly stated, "When the coccyx has been injured or when the surrounding tissues are involved, the contraction of the muscles produces the characteristic pain."⁶

The tenderness of coccygodynia, usually described as being present in the bony coccyx, is in reality in the tissues just lateral to the bony structure. Recurring trauma to the area produces subsequent scarring and tendinous contractures. Coexisting conditions occur frequently.

There is great promise for the prevention and management of coccygodynia in women. Today's practice of obstetrics can help to prevent injury during childbirth. Unfortunately, falls and other trauma will continue to happen, especially as more women become more active in sports. As in other areas of medicine, therapeutic measures need not be spectacular. Skillful management by the simple, inexpensive office procedure of digital massage is worth considering before surgical intervention.

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Fine Needle Aspiration Biopsy of Thyroid Nodules

JEFFREY S. TSUNG, M.D.
Las Vegas, Nev.

EVALUATION OF THYROID nodules is problematic because both malignant and benign lesions present as nodules. If the nodule is solitary, the risk of carcinoma of the thyroid nodule is higher. Scintigraphy of the thyroid gland can be helpful by classifying the nodules as "cold" or "hot." The malignant tumor is rare in a hot nodule but is often found in a cold nodule. The frequency of carcinoma in a cold solitary nodule has been reported to be around 20%.^{1,2}

Fine needle aspiration biopsy (FNAB) has been found as the most accurate and cost effective screening technique.^{3,4} FNAB of the thyroid has been used in Sweden since the beginning of the 1950s.^{5,6} In spite of many publications of its accuracy,^{7,8} physicians in the United States have seemed reluctant to adopt FNAB as a technique for the assessment of thyroid nodules.

This paper presents our ten years of experience at King Faisal Specialist Hospital and Research Centre in Riyadh, Saudi Arabia, and discusses the limitations and cost-effectiveness of the FNAB techniques.

Materials and Methods

A total of 275 FNABs were performed on thyroid masses at King Faisal Specialist Hospital and Research Centre between August 1977 and March 1987. Records of these

Abstract

In the last 10 years, 275 fine needle aspiration biopsies (FNAB) of thyroid were performed in our institution. Eighty-four patients subsequently underwent surgery. Histologic diagnoses of these 84 cases were correlated with the FNAB diagnoses. The study revealed that our diagnostic accuracy of FNAB in thyroid nodules was very good. FNAB has emerged as a valuable aid in the diagnosis and management of thyroid nodular diseases. Its use has resulted in few operations and, therefore, in a saving to the health care system.

The technique is rapid, simple and generally free of any significant complications. The technique can be performed in a physician's office and outpatient clinic, and results can be obtained within minutes.

Cases from the files of the department of pathology were reviewed, and those cases in which histological material from these nodules was subsequently available were identified.

Pathology reports as well as aspiration smears and all available histologic sections from these cases were reviewed. Aspiration smears from those cases in which histologic correlation was available were selected for detailed study regarding the presence of a variety of cytomorphologic observations such as cell arrangement, intranuclear cytoplasmic inclusions, inflammatory cells, macrophages, giant cells, oncocytes, colloid and amyloid.

FNAB Technique

The puncture of thyroid nodules is

best performed with the patient in supine position with the neck moderately extended. No anesthesia is required. The instrument required for aspiration biopsy is a fine needle adapted to a disposable syringe in a holder. Disposable 22-gauge fine needles are recommended.

The lesion is punctured with the needle connected to a 10 ml, air-tight plastic syringe. When the needle has entered the nodule, the plunger is then retracted to create a vacuum in the syringe. The needle is moved back and forth several times within the lesion as material is aspirated with the needle by the negative pressure. Just before the needle is withdrawn from the lesion, the plunger is released to eliminate the vacuum, thereby avoiding aspiration of the sample into the syringe barrel.

To expel the aspirated material onto the glass slide, the needle containing the sample is first detached from the syringe. The needle is re-attached, and the needle content is ejected on the slides by pushing down the plunger. Several smears are made and air dried. The smears are then stained with the Diff-quick stain.

Results

In 54 of 275 cases, the aspirated material was judged as insufficient for proper evaluation, and accordingly no diagnoses were rendered. In the remaining 221 cases, the cellular yield in the aspiration smears was sufficient for diagnosis. In our experience, the FNAB technique permitted diagnosis of the following thyroid lesions.

Papillary carcinoma—Papillary carcinoma was recognized by the large or small papillary structures (*Figure 1*).

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FIGURE 1: FNA specimen of papillary carcinoma showing the large and small papillary structure. (Diff Quick Stain $\times 50$).

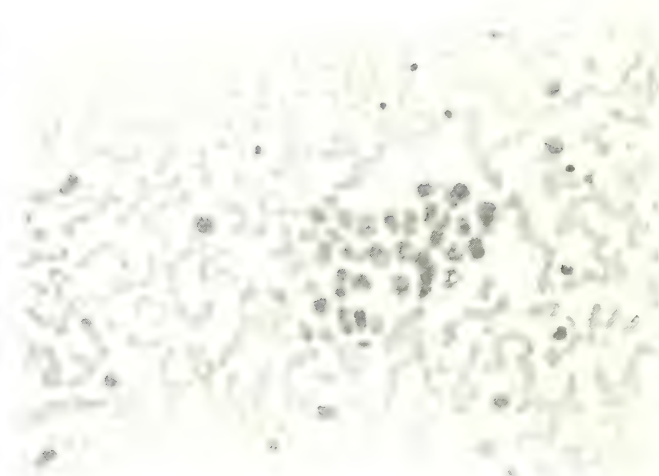


FIGURE 2: Intranuclear inclusion in papillary carcinoma. (Diff Quick Stain $\times 160$).

Particularly helpful for the diagnosis was the presence of intranuclear cytoplasmic inclusions. (Figure 2).

Anaplastic carcinoma—The neoplastic cells were very pleomorphic with bizarre giant tumor cells. The background was composed of necrotic tissue (Figure 3).

Medullary carcinoma.—The tumor cells were spindle or polygonally arranged in sheets or small clusters (Figure 4). Amyloid was frequently found.

Hürthle cell tumor—The tumor cells were present in large numbers and were arranged in large sheets with occasional papillary structures. The cytoplasm of the cells was abundant and was slightly granular. Nuclei were round with varying degrees of nuclear pleomorphism. (Figure 5).

Malignant lymphoma—Aspiration smears were composed almost entirely of lymphoma cells. Epithelial cells were usually lacking (Figure 6).

Nodular goiter—The cellular yield

was usually moderate, and the cells were arranged in sheets or follicles. The colloid was seen as pale, light staining material spread out in smears. Most of the cases also revealed the presence of large numbers of hemosiderin-laden macrophages (Figure 7).

Thyroiditis—The smear revealed a large number of mature lymphocytes mixed with a variable number of benign epithelial cells (Figure 8).

Tuberculosis—The smears revealed



FIGURE 3: Anaplastic neoplastic cells in a necrotic background. (Diff Quick Stain $\times 160$).



FIGURE 4: Spindle or polygonal medullary carcinoma cells arranged in sheets or small clusters. (Diff Quick Stain $\times 160$).



FIGURE 5

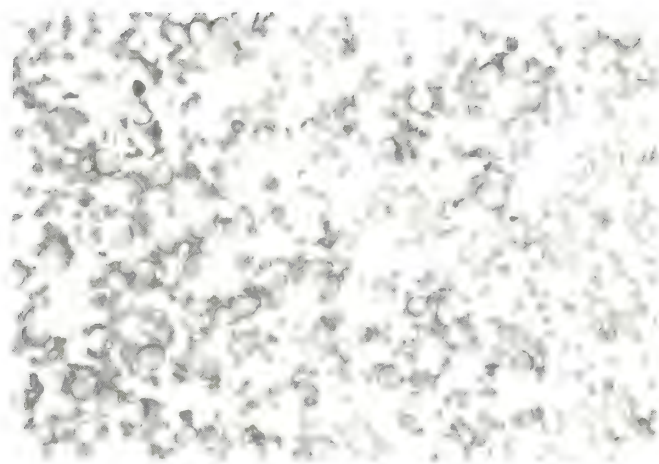


FIGURE 6

FIGURE 5: Hürthle cell tumor. The cytoplasm of the cells was abundant and slightly granular. Nuclei are round with varying degree of pleomorphism. (Diff Quick Stain $\times 160$).

FIGURE 6: Malignant lymphoma composed of lymphoma cells without epithelial cells. (Diff Quick Stain $\times 160$).

FIGURE 7: Nodular goiter. Benign epithelial cells arranged in follicles with many hemosiderin-laden macrophages. (Diff Quick Stain $\times 160$).

FIGURE 8: Thyroiditis. Benign epithelial cells with many lymphocytes. (Diff Quick Stain $\times 100$).

FIGURE 9: Tuberculosis. Epithelioid cells and mononuclear cells with giant cells forming granuloma. (Diff Quick Stain $\times 100$).

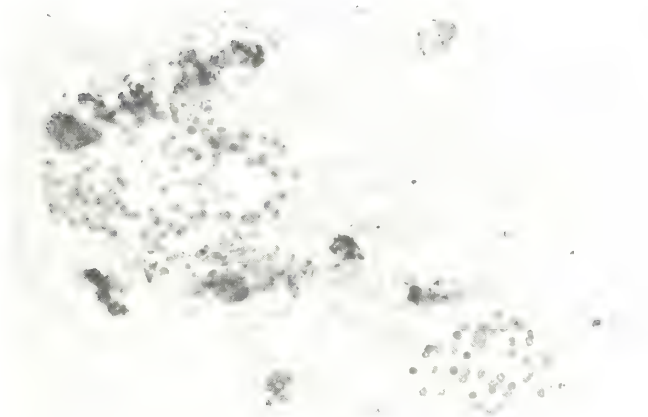


FIGURE 7



FIGURE 8



FIGURE 9

extensive necrotic debris with variable numbers of polymorphonuclear cells. Several epithelioid cells as well as foamy macrophages with occasional giant cells also were seen. (Figure 9).

FNAB cannot confidently distinguish between a follicular adenoma and a follicular carcinoma. We use the term follicular neoplasm and recommend surgical intervention.

The correlation between the FNAB interpretation and histologic diagnosis could be made in 84 of the 221 cases. The results were given in Table 1. The FNAB reports were grouped into malignant, benign and suspicious.

Since we could not distinguish a follicular adenoma from a follicular carcinoma, the FNAB diagnosis of follicular neoplasm was classified in the suspicion group. If the suspicious group was excluded for calculation, the sensitivity was 96%, the specificity was 94%, the positive and negative predictive values were 98% and 89% respectively, and the efficiency was 95% (Table 2).

Since patients with follicular neoplasm were recommended to undergo surgery, the diagnosis of follicular neoplasm should be considered as positive test results and included in the statistical analysis. The sensitivity increased slightly. However, the specificity significantly decreased to 67%. The positive predictive and the negative predictive values were 88% and 89% respectively. The efficiency (88%) was also lower. (Table 2).

Discussion

The reported accuracy of FNAB of thyroid nodules ranged from 50-97%.⁹⁻¹⁶ In this study, we demonstrated that our diagnostic accuracy of thyroid FNAB was favorably comparable with that of Lowhagen in Sweden, the leading authority in this field,⁸ and with that of other published data.¹⁰

Physicians must be aware of some important limitations of the technique.¹² In our series, one major limita-

TABLE 1
FNAB Diagnosis in 84 Histologically Confirmed Thyroid Lesions

	FNAB DX			Totals
	Malignant	Benign	Suspicious	
Patients with thyroid malignancy	46	2	12	60
Patients without thyroid malignancy	1	16	7	24
Totals	47	18	19	84

TABLE 2
Accuracy of FNAB Diagnosis

	Suspicious FNAB Diagnosis Excluded			Suspicious FNAB Diagnosis Considered To Be Positive Test		
	FNAB DX			FNAB DX		
	Malignant	Benign	Totals	Suspicious or Malignant	Benign	Totals
Patients with thyroid malignancy	46	2	48	58	2	60
Patients without thyroid malignancy	1	16	17	8	16	24
TOTAL	47	18	65	66	18	84
Sensitivity:		96%	Sensitivity:		97%	
Specificity:		94%	Specificity:		67%	
Positive PV:		98%	Positive PV:		88%	
Negative PV:		89%	Negative PV:		89%	
Efficiency:		95%	Efficiency:		88%	

tion of the technique was the relatively high rate (20%) of technically unsuccessful biopsies. The reported rate of technical failure in aspiration biopsies has varied from 3% to 28%.^{13,14}

The rate of technical failure is related primarily to the experience and skill of the person performing the biopsy. In our setting, the biopsies have been performed over the last ten years by a large number of pathologists with varying degrees of experience and levels of technical skill.

FNAB may be inaccurate when there is a sampling error; such errors

can occur in lesions larger than 4 cm, particularly if they are cystic, because the fluid removed is not representative of the epithelial component.^{9,10,15} The same problem is encountered in lesions smaller than 1 cm because it is technically difficult to place the needle in the small nodule.

Although a positive or negative diagnosis can be made in the majority of our cases, the FNAB diagnosis was suspicious in 19 of 84 cases (21%). Of these 19 cases, 12 had malignancy. These suspicious cases must be evaluated by scan, repeat FNAB or

surgical excision.¹⁶

It is important to realize that a benign FNAB diagnosis does not rule out the possibility of malignancy, since the false negative rate reported in the literature ranged from 2.6% to 31.4%.^{8,17} In our series only two false negative biopsies and one false positive biopsy were encountered. It should be emphasized that an overwhelming majority of our patients with FNAB diagnosis of a benign condition did not undergo surgical excision. It is possible that we underestimated our false negative results.

The diagnosis of follicular carcinoma and its distinction from follicular adenoma on the basis of FNAB continue to be difficult. This is because the distinction between these two lesions requires demonstration of capsular and/or vascular invasion.¹⁸ These features can be seen only in histologic sections. On FNAB diagnosis, we never attempted to differentiate follicular carcinoma from adenoma. We used the term "follicular neoplasm" and recommended a surgical excision.

Despite these limitations, FNAB has had a substantial impact on the management of thyroid nodules, and it provides far more direct information than any other diagnostic modalities available. Use of FNAB has halved the number of patients who undergo an operation and has doubled the incidence of malignant disease detected in surgically excised nodules.^{3,4} This method not only spares many patients with a benign nodule from an operation, but also results in substantial savings to the health care system, about \$400 to \$750 per patient evaluated.^{3,4,11} For these reasons, we believe that FNAB is the most cost effective screening method for the thyroid nodule and should be done routinely as part of the initial evaluation.

If the FNAB diagnosis is malignant, a surgery should be recommended. A reaspiration biopsy should be performed if insufficient material is obtained initially. A scan should be done

if FNAB diagnosis is suspicious. If the nodule is "cold," the risk of malignancy is greater, and surgical excision is warranted. If the nodule is "hot," the risk of malignancy is considerably less, and surgery may be avoided.

The complications of FNAB of the thyroid are relatively rare.^{8,10,11} Minor intraglandular hematomas are probably the most common complication but occur infrequently.^{8,19} Other complications include tracheal puncture and transient palsy of the laryngeal nerve.^{11,19} The few instances of recurrent laryngeal nerve compression resolved spontaneously within a week.¹¹ In extensive review of thousands of FNAB of the thyroid, including over 20,000 performed at the Karolinska Hospital, there have been no instances of needle tract seeding.¹¹ In our series, we did not experience any complications.

FNAB has emerged as the best initial diagnostic step for the evaluation of a nodular thyroid. Its use has resulted in few operations and therefore in a saving to the health care system. The technique is rapid, simple, relatively painless and generally free of any significant complications. The technique can be performed in a physician's office and outpatient clinic, and results can be obtained within minutes.

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Electronic Information for Physicians: A New Dimension in Solving Problems

WILLIAM A. YASNOFF, M.D., Ph.D.
American Medical Association

PHYSICIANS HAVE A continual need for information. This is a natural consequence of the overwhelming and increasing quantity of biomedical knowledge required for the practice of medicine today. Traditional sources of this information include colleagues, books and journals, both in the hospital and office environment.

Thanks in part to the decreasing cost of computer equipment, a new, low-cost, more up-to-date source of information is now readily available to physicians: electronic information. This information often may be more convenient, more current and more relevant than traditional sources. This article provides some examples of the types of electronic information that can be useful in addressing physician information needs. It focuses on AMA/NET, the AMA sponsored nationwide medical information network that is now available to physicians throughout the U.S.

The Diagnostic Problem

Probably the most common problem that physicians face is making a diagnosis. In the overwhelming majority of cases, the signs and symptoms of a patient's presenting illness are clear and easily recognizable and the diagnosis is rapidly made. However, there is a small percentage of cases that present puzzling combinations of

findings. It is in these cases that physicians traditionally seek the help of colleagues, books and recent literature.

Colleagues, of course, are an excellent source of information. However, they are not always readily available. Books typically are limited in that their information is at least one year old and is usually organized by disease, not signs and symptoms. Because of this, a diagnostic hypothesis must be formed before the information is accessible.

Even books that focus on signs, symptoms and differential diagnosis may not provide ready access to information relevant to a specific patient with an unusual combination of findings.

While the recent literature is more current than books, it is also organized by disease and is more difficult to access. Only a limited number of journals can be available in the physician's office. These typically will be organized chronologically, and finding information on a particular topic may be time consuming. A well-organized and up-to-date reprint system may compensate for these problems somewhat.

The nearest medical library will undoubtedly have a more comprehensive collection of journals and also more capabilities for locating relevant articles, for example using Index Medicus. However, the library also may not be very convenient for the physician.

How can electronic information help? AMA/NET provides two different types of information that can be useful in a diagnostic problem: 1) DxPlain, a diagnostic assistance program, and 2) various methods for searching and accessing the medical

Editor's Note: This is the first of a two-part series on electronic information systems and how doctors can use them. The second part will concern electronic communication with physician colleagues and will appear in the September issue of *INDIANA MEDICINE*.

literature. The DxPlain system is unique to AMA/NET; it provides patient-specific diagnostic information. Upon entering DxPlain, information is requested regarding the age and sex of the patient, duration of the problem, and the signs, symptoms and lab findings associated with this condition. This information is entered in a natural form with opportunities for correcting spelling and other typographical errors.

After entering all the information for the patient, DxPlain produces a list of diagnostic possibilities. This list is divided into common and rare diseases, and each disease shown is given a ranking according to the likelihood that it could be responsible for the observed patient signs and symptoms.

DxPlain then will provide explanations describing those signs and symptoms that led to the inclusion of each diagnosis, other findings that are not explained, and additional findings that were not noted but would be expected in that particular condition. Thus, DxPlain can help the physician to both generate and "think through" the differential diagnosis in a puzzling case. It functions as a specialized, patient-specific differential diagnosis reference allowing rapid access to information that can be helpful in the diagnostic process.

Search and Retrieval

Electronic information also can be extremely useful in search and retrieval of recent literature. AMA/NET provides several methods of accessing the medical literature. The first of these is EMPIRES (Excerpta Medica Physicians Information Retrieval and Education Service). It indexes articles from 328 key clinical journals.

Searching can be done in one of two ways: easy search and advanced search. In easy search, two keywords are entered, and a search is performed for all references that pertain to both those keywords. An option is provided for restricting the search to the last six months. Very little knowledge of searching techniques in databases is required to use easy search.

In advanced search, as many keywords as desired may be entered and combined in whatever way desired. Repeated searches can be done to narrow down the selections as needed. While advanced search is not difficult to use, it does require some knowledge of both searching techniques and the commands available.

AMA/NET provides access to MEDLINE, the National Library of Medicine database of the world's biomedical literature, in two separate ways. First, access is provided by PaperChase, a user friendly interface developed at the Beth Israel Hospital in Boston.

This program allows the physician with very little searching experience or knowledge of computers to construct a successful search of some complexity. Many physicians have found that it provides a fast and easy way to access the medical literature.

The National Library of Medicine's own user interface for MEDLINE, Grateful Med, is also available on AMA/NET. It provides a slightly different environment for helping the physician to develop and execute an appropriate search.

All three methods provide a useful way to access the most recent medical literature. Although the full text of articles found is not on-line for immediate reading, abstracts are available for the majority of the articles. Also, it is possible to order paper copies of any articles retrieved (up to five EMPIRES articles per month are available at no charge).

The Therapeutic Problem

The physician's approach to a therapeutic problem is similar to the diagnostic, although there are some sources of information that are more helpful. As with diagnostic problems, the traditional options available are colleagues, books and literature. If information is desired on a specific drug or a class of drugs, this can be obtained from a number of references that are often readily available. However, it is sometimes more difficult to deter-

mine the currently accepted therapy for a given disease. Here again, electronic access to the most recent literature can be helpful.

One of the key words allowed in literature searching is "review." This results in the ability to access a recent review article on any given condition. This often can result in rapid identification of currently acceptable therapy.

Another common therapeutic problem is assessing the possibility of drug interactions, especially for a patient on many different medications. The MEDICOM drug interaction database recently became available on AMA/NET. It allows entry and storage of specific patient drug profiles so that patients with difficult drug interaction problems easily can be reevaluated when therapy is changed.

In addition to drug interactions, drug-food, drug-nutrient, and drug-disease and potential allergic reactions also are reported. Each reaction has an associated level of severity. If desired, output can be limited to the most clinically significant reactions. This avoids one of the classic problems in consulting printed drug interaction references: namely, the hundreds of interactions listed that have no practical clinical significance.

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Flexible Fringe Benefit Plans

FLEXIBLE COMPENSATION plans, also known as "cafeteria" or "Section 125" benefit plans, allow physicians and their employees to design their own benefit program. This plan saves tax dollars for the physician personally and his employees, and also reduces a medical practice's payroll tax expenses.

Cafeteria plans used to be offered only by large employers. That's changed. It has been my experience that virtually 100% of all medical practices that are organized as professional corporations can benefit from installing a cafeteria plan.

Take the case of Mary Jane, who works as a nurse. Since her husband works for Eli Lilly, which is known for having great medical insurance coverage for all family members, Mary Jane does not need her employer's free medical insurance coverage.

Mary Jane's employer might be paying for a benefit she does not need or use.

However, Mary Jane does need disability insurance. To meet that need she must use personal, after-tax dollars. If her physician employer had a cafeteria plan, Mary Jane could elect disability insurance instead of medical insurance.

Further, let's assume that she wanted additional dental and vision care benefits. With a cafeteria plan, she could select the fringe benefits she wanted from a menu. If the cost for

The author is president of Conner Planning, Inc., an affiliate of the Conner Insurance Agency, Inc., Indianapolis. Another affiliate, Conner Services, Inc., administers a full range of qualified plans and employee benefit plans.

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Gregory Wright, CFP
Indianapolis

these benefits exceeded what her employer would pay, Mary would pay the difference . . . with pre-income tax and pre-withholding tax dollars.

Employers like these plans. They decide how much they are willing to pay for employee fringe benefit costs, and each employee decides how to spend his or her fringe benefit money. If the employee wants to spend more than the employer is willing to pay for, the employee pays the difference.

Flexible compensation plans have been permitted under IRS Code Section 125, which was enacted in 1978. These plans also are referred to as "Section 125" plans. Before 1978, if an employee was given the choice between selecting from among taxable and non-taxable benefits, all benefits were taxable.

That's changed today. An employee can use pre-tax, rather than after-tax, dollars to pay for benefits. These qualifying benefits are broadly described as follows:

- Disability insurance cost.
- Medical, dental and vision care, including health-related supplies or services not covered by insurance.
- Medical (group or individual) insurance premiums.
- Care for dependent children, a disabled spouse or the care of a dependent parent.

When an employee participates in a cafeteria plan, his or her taxable income is reduced. That, in turn, reduces the required employee Social Security contribution. This tax savings frees up more employee money to pay for needed benefits.

Employers using a cafeteria plan can provide additional benefits for employees, while holding down expenses. For example, studies have shown that benefit expenses, particularly health care costs, decrease as the amount an employee must pay increases, even when their costs are paid with pre-tax dollars.

When employees are aware of and participate in selecting and paying for these benefits, they help contain costs. Employees become better informed and more cost-conscious consumers.

Employers also get a tax break. Since cafeteria expenses are reimbursed with pre-tax salary dollars, an employee actually has a smaller gross paycheck. A smaller gross paycheck results in lower employer-paid payroll taxes, including Social Security, federal and state taxes and fees. These taxes and fees generally represent 10% to 13% of your payroll cost.

CONTINUED ON PAGE 737

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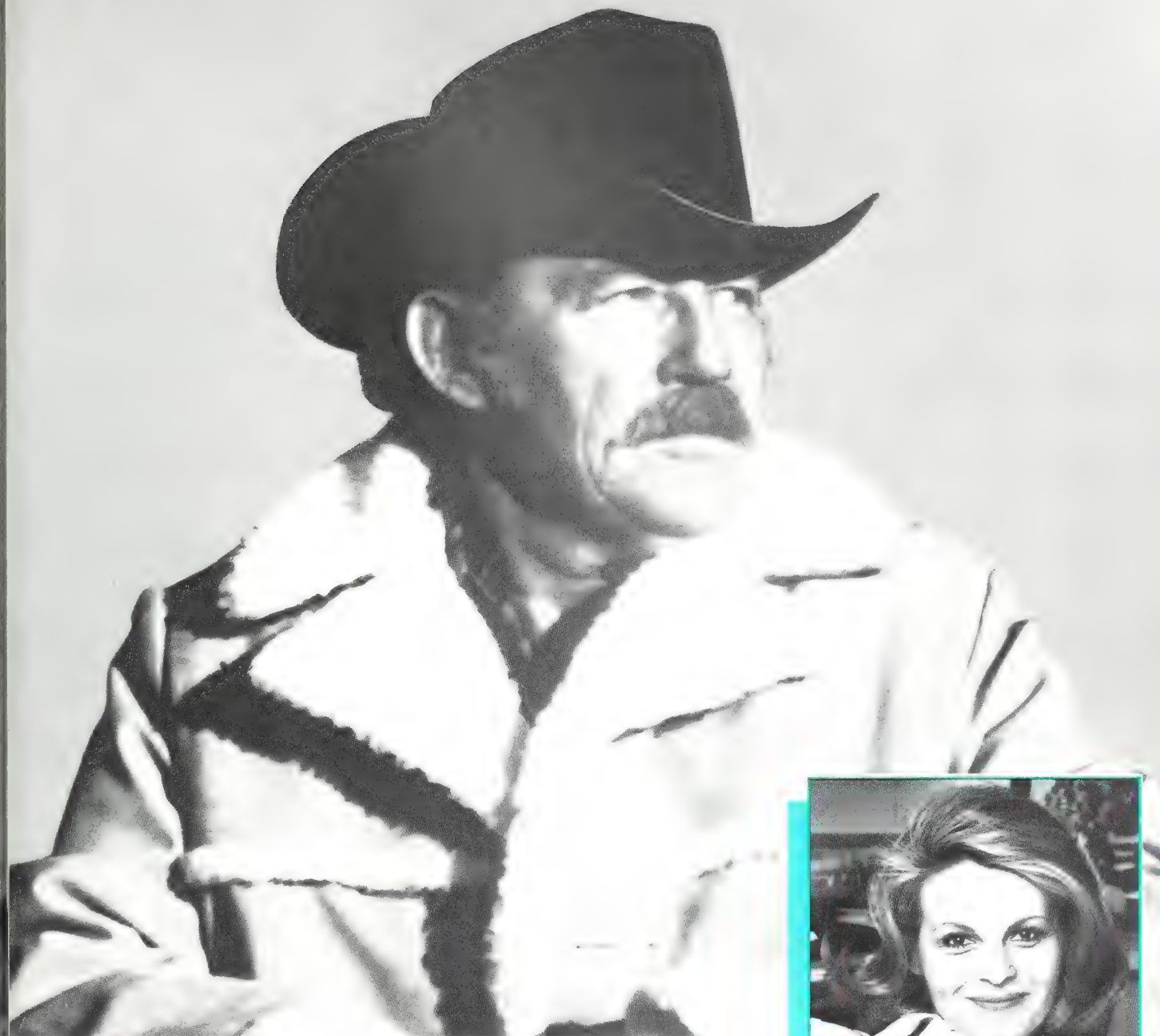
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AUXILIARY REPORT

Ann Wrenn, Bloomington
ISMA Auxiliary President 1988-89

In preparation for the new auxiliary year, officers of the ISMA Auxiliary attended the AMA Auxiliary House of Delegates and will attend Leadership Confluences I and II. Nine members of the ISMA Auxiliary executive board attended the National House of Delegates. Seventeen county and state officers will attend the leadership confluences.

AMA Auxiliary House of Delegates

Nationally acclaimed speakers were featured at the Drake Hotel when 350 delegates gathered June 26-29 to form policy and elect officers for the AMA Auxiliary year 1988-89. The keynote address was given by U.S. Surgeon General C. Everett Koop, M.D. Guest speakers included:

- John S. Zapp, D.D.S., who addressed legislative issues and concerns in an update for 1988;
- John McLaughlin, Ph.D., producer and host of "The McLaughlin Group," who discussed "A Conservative's View from Washington";
- Jill St. John, actress, food editor and culinary expert, who presented "Cooking: More Than Just Food"; and
- Betty Szewczyk, AMA Auxiliary President, who gave "The State of the Auxiliary, 1987-88."

National program previews featured outstanding county projects and plans for the year for AMA-ERF, health projects, membership and legislation. A video preview of a message from the 1988-89 AMA Auxiliary President, Mary Strauss, was shown.

The Indiana delegates were: Ann Wrenn, Bloomington; Lura Stone, Ligonier; C. Rod Ashley, Marion; Trudy Urgena, Marion; Andrea Kuipers, West Lafayette; Kay Enderle, Terre Haute; Suzanne Miller, Bluffton; Anne Throop, Indianapolis;

Vivian Priddy, Fort Wayne, alternate for Mrs. Throop; Sue Greenlee, Kendallville; and Muriel Osborne, Muncie, National Committee Member.

AMA Leadership Confluences

Leadership training is important to the auxiliary federation. This year we are participating in two leadership confluences, Oct. 9-11 and Feb. 5-7. Topics will be discussed to aid county presidents-elect in preparing for their presidential year.

The first general session will focus on the nursing shortage, and in a later session a legislative update will be given. Breakout session topics will include: effective programming for quality meetings, team efforts, providing support for members' needs, how to run a meeting, writing it right, adolescent health, AIDS programs in

the community, teen suicide and community services for older Americans. AMA representatives James Sammons, M.D., executive vice-president, and James E. Davis, M.D., president, will bring greetings during closing sessions.

Confluence is an intensive training session that allows national board members to interact directly with county officers on leadership issues.

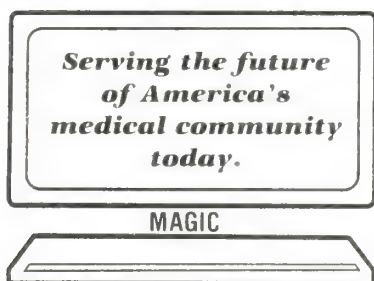
Nine Indiana Auxiliary members will attend each session of the AMA Leadership Confluence. These nine members include seven county presidents-elect along with the ISMA Auxiliary president and president-elect. At least 130 Indiana Auxiliary officers have participated since the first leadership confluence was held in October 1975. — Lura Stone, ISMA Auxiliary president-elect.



Lura Stone, ISMA Auxiliary president-elect, shows the Indiana exhibit displayed during Leadership Confluence II, held last February. The exhibit features the Mad Hatter's Luncheon, sponsored by the Lake County-Northwest Auxiliary.

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THE INTERNATIONAL CONFERENCE ON SUPPORTIVE CARE IN ONCOLOGY will be held Aug. 23-25 in Brussels, Belgium. This conference will deal with current issues of major importance in the ever-changing approaches to the care and clinical support of cancer patients. Until now, there has been no single venue to join leaders in all aspects of cancer supportive care with other cancer care professionals. It is with this in mind that ICSCO has been established. The meeting location will alternate between Europe and North America on an annual basis. This conference is sponsored as part of an educational program of the Institut Jules Bordet Centre des Tumeurs de L'Université Libre de Bruxelles and the University of Maryland School of Medicine. Two critical areas of supportive care, infusion devices/venous access and infection prevention, will be explored in detail at the First ICSCO. The first day of the conference will focus upon recent advances in infusion devices and sustainable vascular access via catheter for blood sampling chemotherapy, infusion and administration of antimicrobials and blood products. All sessions will be conducted in English. Advance registration is \$150, and on-site registration is \$195. To register by phone, call 1-800-821-5678 and ask for the ICSCO desk.

UROLOGIC CANCER is the topic of a course to be presented by the Harvard Medical School Oct. 6-8 at the Ritz-Carlton Hotel, Boston, Mass. This course will provide an overview of the clinical and pathophysiological basis for the diagnosis and treatment of pa-

tients with urologic cancer. Principles derived from the disciplines of urologic surgery, medical oncology and radiation therapy will be highlighted and incorporated into a comprehensive consideration of therapeutic practice. While teaching will be provided primarily through lectures, there will be an emphasis on panel discussion of both problem management cases and controversies in urologic cancer. Interaction with the faculty will be provided during question and answer periods and informal lunches attended by faculty and students. This meeting meets the criteria for 22 credit hours. For registration information, call (617) 732-1525.

FREE BREAST CANCER SUPPORT GROUP, sponsored by Bartholomew County Hospital, will meet Aug. 15, Sept. 19, Oct. 17, Nov. 21 and Dec. 19. The meetings feature informal discussions and opportunities to share concerns and gain support from others who have had breast cancer. For more information, contact Pat Cruser, R.N., (812) 376-5815.

THE THIRD ANNUAL SYMPOSIUM on Transrectal Ultrasound and Prostate Cancer will be held Sept. 23-24 at the Fairmont Hotel, Chicago. A distinguished faculty will discuss current and future clinical applications of transrectal ultrasound of the prostate. The program will cover the use of transrectal ultrasound in the detection, diagnosis, biopsy, staging and therapy of cancer of the prostate. The potential of transrectal ultrasound as a screening modality for prostate

cancer will be presented. Topics of special interest will include Stage A prostate cancer, dysplastic lesions of the prostate, and the combined use of prostate specific antigen (PSA) and transrectal ultrasound to diagnose prostate cancer. The program objectives are: 1) to present current and future applications of transrectal ultrasound for prostate imaging; 2) to demonstrate the ability of transrectal ultrasound to detect, guide needle biopsy of and stage prostate cancer; 3) to present the current understanding of Stage A prostate cancer with transrectal ultrasound correlation; 4) to explore the potential of transrectal ultrasound for screening for prostate cancer; 5) to discuss clinical applications of prostate specific antigen (PSA); 6) to present an overview of treatment methods for prostate cancer; and 7) to explore the clinical implications of dysplastic lesions of the prostate. For further information on cost or registration, contact Diversified Conference Management, Inc., P.O. Box 2508, Ann Arbor, Mich. 48106—(313) 665-2535.

CHEMOTHERAPY FOUNDATION SYMPOSIUM VIII, Innovative Cancer Chemotherapy for Tomorrow, will be held at the Sheraton Centre Hotel, New York City, Nov. 16-18. Leading clinical researchers and oncologists from the United States and Europe will present current findings and new direction in the treatment of neoplastic diseases. The Page and William Black Postgraduate School of Medicine sponsors the symposium. To obtain further information, contact Jaelyn Silverman—(212) 241-6772.

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Marinol, Roxane
Dronabinol
Liquid capsules

Category:
Brand Name:
Generic Name:
Dosage Forms:

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Septra, Burroughs
Wellcome
Trimethoprim and
sulfamethoxazole
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SECTRAL
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CME QUIZ

TO OBTAIN ONE HOUR OF CATEGORY 1 AMA CME CREDIT, answer the following questions by circling the correct answer on the answer sheet below. Complete and clip the application form and mail it to: Indiana University School of Medicine, CME Division, BR 156, 1226 W. Michigan St., Indianapolis 46223.

Amyotrophic Lateral Sclerosis

CONTINUED FROM PAGES 679-683

1. True generalizations about amyotrophic lateral sclerosis include:
 - a. Gradually progressive disorder selectively involving upper and lower motor neurons in the central nervous system.
 - b. More common in the elderly.
 - c. Although the duration is variable, the course is progressive, with mean time course of 2-3 years.
 - d. None of the above.
 - e. All of the above.
2. Amyotrophic lateral sclerosis:
 - a. Often begins with atrophy and weakness in one limb.
 - b. Often results in dysphagia and dysphonia.
 - c. Often produces muscle cramps, particularly in the legs.
 - d. All of the above.
3. The following statements are true regarding ALS:
 - a. There is marked weakness of extraocular muscles.
 - b. Urinary incontinence is an early sign.
 - c. Parasthesias occur in the limbs.
 - d. None of the above.
4. The routine diagnostic work-up of a patient suspected of having ALS should include screens for which of the following potentially treatable conditions?
 - a. Gammopathy.
 - b. Hyperparathyroidism.
 - c. Hyperthyroidism.
 - d. All of the above.
5. A 65-year-old man presents with a six-month history of progressive weakness and atrophy in the arms associated with muscle twitching (fasciculations) in the arms. He has spasticity (upper motor neuron signs) in the legs. Which of the following clinical signs will help distinguish ALS from cervical spondylosis?
 - a. Babinski signs.
 - b. Fasciculations in the tongue and dysarthric speech.
 - c. Fasciculations in the arms.
 - d. Hyporeflexia in the arms.
6. Diagnostic evaluation of a patient suspected of having ALS should include which of the following?
 - a. Electromyogram (EMG).
 - b. Spinal imaging (myelography or magnetic resonance scanning).
 - c. Imaging of the cervical medullary junction.
 - d. None of the above.
 - e. All of the above.
7. A 25-year-old medical student is self-referred with a chief complaint of twitching in the left shoulder. Examination is entirely

CONTINUED ON PAGE 739

JUNE CME QUIZ Answers

Following are the answers to the CME quiz that appeared in the June 1988 issue: "Neonatal Sepsis."

- | | |
|------|-----------|
| 1. d | 6. d or b |
| 2. c | 7. d |
| 3. d | 8. c |
| 4. c | 9. b |
| 5. f | 10. e |

Answer sheet for Quiz: (Amyotrophic Lateral Sclerosis)

- | | |
|--------------|---------------|
| 1. a b c d e | 6. a b c d e |
| 2. a b c d | 7. a b c d |
| 3. a b c d | 8. a b c d |
| 4. a b c d | 9. a b c d |
| 5. a b c d | 10. a b c d e |

Name (please print or type)

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Signature

To be eligible for this month's quiz, send your completed, signed application before Sept. 10, 1988, to the address appearing at the top of this page.

I wish to apply for one hour of category 1 AMA Continuing Medical Education credit through the I.U. School of Medicine. I have read the article and answered the quiz on the answer sheet above. I understand that my answer sheet will be graded confidentially, at no cost to me, and that notification of my successful completion of the quiz (80% of the questions answered correctly) will be directed to me for my application for the Physician's Recognition Award of the American Medical Association. I also understand that if I do not answer 80% of the questions correctly, I will not be advised of my score but the answers will be published in the next issue of INDIANA MEDICINE.

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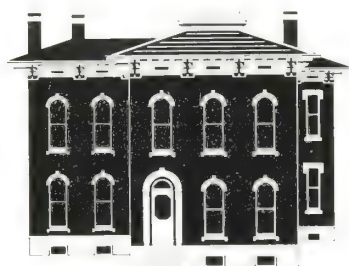
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Unfortunately, an older person's response to medicines is less predictable than a younger person's. They can experience altered drug actions and adverse drug reactions.

So, if they don't tell you first, ask them what they're taking and if the medicines are causing any problems. Take a complete medications history including both prescription and non-prescription medicines.

Make it a point to tell them what they need to know — the medicine's name, how and when to take it, precautions, and possible side effects. Give them written or printed information they can take home, and encourage them to write down what you tell them.

Good, clear communication about medicines can increase compliance, prevent problems, and lead to better health.

So re-introduce the oldest advance in medicines. Make talking a crucial part of your practice. It isn't a thing of the past. It's the way to a healthier future.

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DEALING WITH DEFEAT

by Arthur R. Pell, Ph. D.
Consultant, Dale Carnegie & Associates, Inc.

All endeavors we undertake cannot succeed. Interspersed with the joy of success is the bitterness of failure. By dealing with failures constructively, we can often turn those failures into successes.

Perseverance and Innovation

The lowest point in Lee Iacocca's career was when he was fired from the Ford Motor Company. How he turned this defeat into success in his new job as CEO of Chrysler is well known. In his autobiography, he reported that, immediately upon starting his new job, he was faced with the probability of an even more devastating defeat. Chrysler was on the verge of bankruptcy. A lesser person might have quit right then, rather than move from one failure to another. But by innovative thinking and perseverance, Iacocca confronted this crisis.

Change Direction

Donald Dugan was more than an ordinary musician. His dream was to be a famous concert violinist. After graduating from the prestigious Juilliard School of Music, he entered several of the major competitions, but never finished in the top group of winners. After all those years of study, he realized that, although he was a competent violinist, he did not have what it takes to reach the top. He could have settled for less and become a member of a symphony orchestra—a job that would give him steady employment and still use his talents. However, Don had the desire to be tops in his field, not just one of many musicians.

He carefully studied his options and noted a real dearth of knowledgeable musicians in the production end of the recording business. He was hired by a major record company as an Assistant Producer to assist in the production of classical records. His talents and knowledge of his field soon led to promotion, eventually to the head of this department.

Several years later, Don faced another crisis. The Classical Record Department, never a significant money maker, was cut back in a cost saving reorganization. Don was laid off. Again, Don had to change direction. He set himself up as a consulting producer and offered his services to his former employer and other record companies. With his history of achievement in classical record production, he soon became one of the leading independent producers in his field.

On two occasions, Don, rather than mourning his failures, turned defeat into success by analyzing his strengths and changing his direction to best use his talents.

Change Goals

When Christine Sandford received her last rejection letter from the medical schools where she had applied, she was distraught. All her life she had planned to be a doctor. In college all of her courses were geared to a medical career. She was a bright student and had expected no problem in being accepted by a medical school. However, her grades in Science were lower than was desirable for medical training.

After two days of brooding, Chris realized she had to make some decision as to what to do now. She examined many choices in the medical field, including applying to medical schools in foreign countries, getting a job in a medical-related

field or repeating the science courses and raising her grades so she could apply again to those schools which rejected her. None of these options appealed to her. Serious introspection, followed by discussions with friends, parents and advisors, made her realize that her low marks in science courses were not due to lack of capability, but because she had no real interest in them. Over the years her real interests had changed, but this had not been reflected in her career aspirations.

By rethinking her goals and with the aid of vocational guidance counselling, Chris recognized that she had many talents and opportunities open in several fields. Changing her goals at this point in her life probably saved her from pursuing a career in which she might have been unhappy.

Returning to Past Successes

After many years as one of the top financial analysts in his firm, Joel Montalbano was promoted to Division Controller. It didn't take Joel long to realize he was over his head in his new job. His strength was working with figures and now much of his work was dealing with people. He supervised a staff of 40 accountants, computer operators and clerks. He spent much of his time at meetings with other managers, personnel from banks and other financial institutions and his own top management. By the end of the first year, he had been talked to and counselled by his boss several times on the lack of performance in his department.

He was on the verge of resigning and looking for another job, when the Corporate Controller visited his division from the home office. "Joel", he said, "you were one of the best financial analysts we had in this company. Your analyses were brilliant. However, in your current job you are not successful. If you are willing to go back to your old job, I think you will be happier and certainly more valuable to the company."

To go backwards is usually looked upon as a defeat. It means admitting you could not succeed in the higher level position and it is often a blow to one's ego. Yet, history is full of people who were promoted to jobs above their level of competence. People have different strengths and weaknesses. We should be able to accept that we cannot be all things to all people. By returning to his former position, Joel once again can be valuable to his company—and to himself.

Charles Kettering, the creator of the automobile self-starter and many other inventions, sold his company to General Motors, where he was appointed vice president in charge of several operations.

Kettering was a terrible administrator and the departments he managed did not meet the standards set by the company. Kettering was finally relieved of his managerial duties and left to concentrate on inventions. Both he and General Motors benefited because he could now work exclusively in the areas where he was at his best.

Failures and defeats should not lead to depression and mourning. Analyze the reason for the defeat and determine how you can change it into a successful endeavor.

Pocket purse size reprints may be purchased (10 for \$10.00) or (25 for \$20.00) from Dale Carnegie & Associates, Inc. 1475 Franklin Avenue, Garden City, NY 11530

OBITUARIES

Anna G. Turner, M.D.

Dr. Turner, 88, a retired Madison general practitioner, died June 10 at Clifty Falls Convalescent Center. Dr. Turner practiced medicine for 43 years.

She was a member of the American Society of Anesthesiologists and a 1931 graduate of the Indiana University School of Medicine.

Madison and Jefferson County honored Dr. Turner last year on her 87th birthday by proclaiming "Dr. Anna Goss Turner Day."

Albert M. DeArmond, M.D.

Dr. DeArmond, 89, died Jan. 7 in Tucson, Ariz. He was a 1927 graduate of the Indiana University School of Medicine.

Dr. DeArmond was formerly from Indianapolis where he practiced neuropsychiatry at Methodist Hospital. He also served on the consulting staffs of St. Vincent Hospital and the Veterans Hospital.

In addition, he served as an assistant professor at the IU School of Medicine.

William H. Norman, M.D.

Dr. Norman, 78, a retired Indianapolis orthopedic surgeon, died June 6 in Naples (Fla.) Community Hospital.

Dr. Norman was a 1933 graduate of the Indiana University School of Medicine.

During his 50 years in medical practice, he served in various capacities. He was former chairman of the orthopedic section of Methodist Hospital in Indianapolis, instructor emeritus of orthopedic surgery for Indiana University Hospitals and a consultant for Riverview Hospital in Noblesville. He also was a former staff member at St. Vincent, Winona and Community hospitals. He served as chief surgeon for the New York Central Railroad Big Four Division for 20 years and as orthopedic surgeon for the Indianapolis Motor Speedway for 30 years. He was a member of the Indianapolis 500-mile Race hospital staff for 25 years.

Dr. Norman was a member and former president of the Marion County Medical Society, a fellow of the American College of Surgeons and a diplomate of the American Board of Orthopedic Surgery.

Walter K. Robinson, M.D.

Dr. Robinson, 83, died May 28 in Lombard, Ill.

He was a 1942 graduate of the University of Illinois Medical School.

Dr. Robinson was a former member of the Indiana State Medical Association and formerly served as chief of surgery at Methodist Hospital in

Gary. He retired from his surgical practice in 1969.

Milo O. Lundt, M.D.

Dr. Lundt, 87, a retired Elkhart area physician, died May 30.

He was a 1928 graduate of the University of Wisconsin Medical School. During World War II, while serving as a flight surgeon in the Army Air Corps, he developed a technique to supply whole blood to military hospitals in Europe.

Dr. Lundt was a former chief of staff at Elkhart General Hospital and practiced medicine for more than 50 years. A past president of the Elkhart County Medical Society, he was the first doctor in Indiana to perform a trans-urethral prostatectomy.

Peter B. Hoover, M.D.

Dr. Hoover, 80, died May 27 at his home in Boonville. A general practitioner for 50 years, he was a former Warrick County health officer.

Dr. Hoover was graduated in 1930 from the Indiana University School of Medicine. During World War II, he served as a captain in the Air Corps Medical Corps.

Dr. Hoover was president of the Warrick County Medical Society for 12 years and a former Boonville city councilman.

A. Ward Bloom, M.D.

Dr. Bloom, 80, a former Marion physician, died May 24 in Sandusky, Ohio.

He was graduated from the Indiana University School of Medicine in 1937 and practiced medicine in Marion from 1937 until his retirement in 1970.

Dr. Bloom served as the Marion city health officer from 1958 to 1970 and was a former chief of staff at Marion General Hospital. A past president of the Grant County Medical Society, he was also a charter member of the Indiana Academy of Family Practice. He was a member of the ISMA Fifty Year Club.

Memorials: Indiana Medical Foundation

The Indiana Medical Foundation, Inc. was formed by the Indiana State Medical Association "for religious, charitable, scientific, literary or educational purposes." It provides financial assistance to support the educational mission of INDIANA MEDICINE.

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The Foundation is pleased to acknowledge the receipt of gifts in remembrance of the following individuals:

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The Foundation is managed by a board of directors that comprises the members of the ISMA Executive Committee. At present, proceeds from the Foundation investments are awarded to INDIANA MEDICINE to further the continuing medical education program.

Memorial contributions made to the Foundation in lieu of flowers will be acknowledged by the secretary in a letter to the family of the deceased.

*"for religious, charitable, scientific,
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Clinic Honors Student With Culbertson Award

The South Bend Clinic and SurgiCenter recently presented its first scholar-athlete award in memory of Dr. Kenneth L. Culbertson, a well-known clinic pediatrician who died unexpectedly last year at age 42.

The Kenneth L. Culbertson Memorial Award for excellence in scholarship and track and field was presented to Gina Barnett, valedictorian and academic all-state in cross country at Penn High School. Dr. George Horvath, a colleague of Dr. Culbertson, presented the award on behalf of the clinic.

Dr. Culbertson was a graduate of the Indiana University School of Medicine and did his residency at Riley Children's Hospital in Indianapolis. In South Bend he was active in community affairs and athletics, especially track. He suffered a heart attack last year during a soccer game.

In response to his untimely death, the South Bend area community responded with an outpouring of letters to the editor about his fine care. The clinic decided to honor him by establishing an award that reflected Dr. Culbertson's major interests, academics and track.

AMA Advisers Offers New Finance Service

AMA Advisers, Inc., the financial services and investment counselling organization owned by the American Medical Association and offering a range of mutual funds and other financial products and services to physicians, has introduced a new personal finance service designed specifically to meet investment objectives of its clients, announced John Cannon, president of AMA Advisers.

In making the announcement, Cannon said, "Our AIM Service is designed to provide sophisticated asset investment management to in-



Dr. George Horvath of the South Bend Clinic and SurgiCenter presents the first Kenneth L. Culbertson Memorial Award to Gina Barnett of Penn High School. The award is for excellence in scholarship and track and field. The late Dr. Culbertson was a well-known South Bend pediatrician.

dividuals, corporations, institutions, retirement plans and trusts with \$250,000 or more to invest. For the busy individual who does not have the time or expertise to monitor his investments or the stock market on a daily basis, we believe our new service is ideal."

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AMA Advisers, Inc. of Blue Bell, Pa., and Chicago, Ill., is a financial services subsidiary of the American Medical Association.

Campaign to Focus on Prescription Drug Misuse Among Older Americans

The National Council on Patient Information and Education (NCPIE) has developed a special education cam-

paign to address a major public health problem—prescription drug misuse by older Americans. Materials from the campaign are now available for use by organizations seeking ways to reach this group.

"Older people are at special risk for prescription drug misuse," said NCPIE Executive Director Bob Bachman. "People over 65 fill twice as many prescriptions as do younger people. And people over 60 experience 40% of all adverse drug reactions. In fact, nearly 25% of older people's hospital admissions are due to problems with taking prescriptions incorrectly.

"Poor communication between older patients and their health care providers—doctors, pharmacists and nurses—is a key factor in drug misuse," Bachman said. "To address that, NCPIE has developed a variety of educational materials for older pa-

tients that teaches them what they need to know about their medicines, and what to ask their health care provider."

A free brochure on the materials is available from NCPIE. Write to NCPIE, 666 11th Street, N.W., Suite 810, Washington, D.C. 20001, or call (202) 347-6711 for more information.

Six Awards Presented for Sports Medicine Research

The American College of Sports Medicine presented six of its members with awards for excellence in the area of sports medicine research during its annual meeting in Dallas.

Dr. Jere Mitchell, Dallas, received the 1988 Honor Award in recognition of his research and leadership in the study of the mechanism of cardiovascular regulation during exercise.

Citation Awards were given to William L. Haskell, Ph.D., associate professor of medicine at the Stanford University School of Medicine and associate director of the Stanford Center for Research in Disease Prevention; Francis Nagle, Ph.D., pro-

fessor of physical education and physiology at the University of Wisconsin-Madison; and Savio Lau-Yen Woo, Ph.D., professor of surgery and bioengineering at the University of California at San Diego and director of the Orthopaedic Bioengineering Laboratory at the San Diego Veterans Administration Medical Center.

Two New Investigator Awards were given to Bente Kiens, Ph.D., senior post-doctoral fellow at the August Krogh Institute, University of Copenhagen, Denmark, and Michael Kjaer, M.D., Ph.D., resident physician of the Department of Orthopedic Surgery, Glostrup University Hospital, Copenhagen, Denmark.

The American College of Sports Medicine has its headquarters in Indianapolis.

BENEFIT PLANS ...

CONTINUED FROM PAGE 711

A cafeteria plan does require certain IRS-mandated administrative procedures to ensure that the plan does not benefit just the highly compensated employees or business owners.

These procedures require, as a practical matter, the use of an outside administrator. However, a reasonable administrative fee is small in comparison to the other savings to the employer. In most cases, the fee is less than the savings in withholding taxes.

A cafeteria plan is particularly important today. The traditional benefit plan was designed for the male breadwinner with a wife and children at home. But today, that "traditional" family is in the minority.

Employees today represent many diverse groups. They include two-income households, single parents, older employees and single employees. Their needs vary widely. Also, individuals are better informed today and many want to make their own decisions.

Fringe benefits are becoming increasingly expensive. The need to contain cost is greater than ever. Employees often have taken these expenditures for granted and have not appreciated them. Benefits are often abused, which causes costs to increase. A cafeteria plan helps overcome these problems. A cafeteria plan saves both employees and employers money.

Physician Recognition Awards



The following ISMA physicians are recent recipients of the AMA's Physician Recognition Award. This award is official documentation of Continuing Medical Education hours earned, and is acceptable proof in most states requiring CME in re-registration that the mandatory hours of CME have been accomplished.



Allman, Rex A., Winamac
Anderson, Milton H., Evansville
Bradley, Mark W., Indianapolis
Cline, Donald L., Indianapolis
Condit, Jonathan D., Eaton
Dulay, Dion J., Evansville
Durrell, Bruce R., Plainfield
Feuer, Henry, Indianapolis

Hardacre, Jerry M., Indianapolis
Harper, Michael E., Tipton
Mayeda, Aimee R., Indianapolis
Morphis, Cherry L., Mooresville
Pierce, William J., Merrillville
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NEWS NOTES

Here and There ...

Dr. Lemoyne R. Pringle, a general surgeon at Hendricks Community Hospital, recently achieved certification through the American Board of Surgery.

Dr. John T. Hinton of College Corner was elected to the Long Range Planning Committee of the Federation of State Medical Boards of the United States at its annual meeting in San Diego, Calif.

Dr. Bradley C. Black, an ophthalmologist with offices in Jeffersonville and New Albany, was recently appointed to CommerceAmerica Banking Company's board of directors.

Dr. Hugh K. Thatcher Jr., past president of the Marion County Medical Society and the Methodist Hospital staff, has received the Otis R. Bowen community service award from the Marion County Medical Society.

Dr. J.C. Bacala, a Scottsburg physician, was recently presented a life membership in the American Academy of Family Physicians.

Dr. William G. Moore, a LaPorte general surgeon, spoke about "Breast Biopsy Procedures" in June during the "Dine with the Docs" program sponsored by LaPorte Hospital's Women's Center.

Dr. William J. Lewis, director of Parkview Memorial Hospital's Neonatal Intensive Care Unit, received the Irving Rosenbaum M.D. Community Pediatrics Recognition Award from the Indiana chapter of the American Academy of Pediatrics.

Dr. Patrick C. Silveus, a family practitioner in Mentone, was the commencement speaker for the 1988

graduating class of Triton High School.

Dr. Belarmino T. Frogozo, a Terre Haute plastic surgeon, gave a talk entitled "Introduction to Plastic Surgery" at the summer event of the YWCA Women and Health series.

Warsaw physicians Dr. Mark A. Jensen, Dr. Tom M. Krizmanich and Dr. Arthur L. Moser received plaques of appreciation for their contributions to the Warsaw Community High School athletic program.

Dr. William W. Drummy Jr. has been appointed to the Owen County Health Board by the county's board of commissioners.

Dr. P.N. Joshi, a Marion internist, recently participated in a workshop entitled "Myths and Facts About Cholesterol," sponsored by Marion General Hospital.

Dr. Michael A. Borkowski, rheumatologist, participated in the 17th Annual Arthritis Forum sponsored by the Arthritis Society of St. Joseph County.

Dr. Robert A. McDougal of Danville and Dr. Michael S. Turner, Dr. Deborah S. Provisor and Dr. Virginia M. Wagner of Indianapolis have been elected to the board of directors of the Marion County Cancer Society/Little Red Door.

Dr. Michael B. Hoover, an Evansville surgeon, has been elected president of the Deaconess Hospital medical staff for the 1988-89 term.

Dr. David B. Goldenberg has been elected president of the Indiana Roentgen Society, the state chapter of the American College of Radiology.

Dr. J. Brent Murphy, a Corydon internist, attended the national convention of the American College of Physicians in New York City.

Dr. Pete Mayfield IV, a Corydon internist, has been certified by the American Board of Internal Medicine.

Dr. Michael H. Schatzlein, a Fort Wayne cardiovascular surgeon, spoke before the annual meeting of the Wells County Division of the Indiana Affiliate of the American Heart Association.

Dr. Timothy M. Crowley, an Evansville ophthalmologist, was recently elected to the board of directors of the Historic Landmarks Foundation of Indiana.

Dr. Frank D. Byrne, medical director of St. Joseph Medical Center's respiratory care department in Fort Wayne, has earned board certification in critical care medicine by the American Board of Internal Medicine.

Dr. Steve Simpson, staff pediatrician at St. Mary Medical Center in Gary, was recently named "Physician of the Year" by the Northwest Indiana chapter of the National Medical Association.

Dr. Barry J. Crevey, a Beech Grove cardiologist, has received the 1988 David P. Warholak Memorial Award from the Metropolitan Region of the American Heart Association.

Dr. Dean D. Maglinte of Indianapolis presented the Radiology Grand Rounds at the Brigham and Women's Hospital, Harvard Medical School, in May; his talk was entitled "Enteroclysis: Why Bother?"

Dr. D. Craig Brater, professor of medicine and director of the Section of Clinical Pharmacology at the Indiana University School of Medicine, recently received the \$300,000 Burroughs Wellcome Clinical Pharmacology Award for 1988.

Dr. Robert O. Zink, Madison, was named a Paul Harris Fellow by the Madison Rotary Club at its annual Academic Awards Banquet, initiated by Dr. Zink 29 years ago; the Paul Harris Fellow award is the highest honor bestowed by Rotarians.

Dr. John J. Hartman of Angola recently received an honorary doctorate for humanitarian service from Hillsdale College of Hillsdale, Mich.

Dr. Guy Perry of Indianapolis has been selected as chairman of the Occupational Medical Practice Committee of the American Occupational Medical Association at its recent annual meeting in New Orleans; he directs the occupational medicine residency program at Methodist Hospital in Indianapolis.

Correction

Table 1 in the Indiana Birth Problems Registry story in the May 1988 issue contained a mathematical error. The total of fetal deaths per 1,000 live births should be 8.3, according to Carolyn Waller of the Indiana Birth Problems Registry.

Dr. Charles M. Clark Jr., director of the Center for Diabetes Research at the Indiana University School of Medicine, was inducted as president of the American Diabetes Association during the association's 48th annual meeting and scientific sessions in New Orleans.

Dr. Randolph W. Lievertz recently lectured at St. Joseph Medical Center, Fort Wayne, on "Antibiotic Use in the Treatment of Pneumonias by Primary Care Physicians."

Dr. Richard T. Miyamoto was an invited speaker at the National Institutes of Health Consensus Conference on Cochlear Implants in Bethesda, Md.; his topic was "Surgical Controversy in Cochlear Implantation of Deaf Children."

Dr. James M. Fink, medical director of the cardiac rehabilitation unit at St. Joseph's Medical Center, South Bend, was the featured speaker at a three-part lecture series on heart disease, sponsored by Cardiology Services at the medical center.

Dr. David E. Van Ryn, prenatal hospital care medical director at Elkhart General Hospital and Goshen General Hospital, has been elected president of the Indiana Chapter of the American College of Emergency Physicians.

Dr. Ray E. Drasga of Merrillville recently was appointed to the board of directors at St. Anthony Medical Center in Crown Point.

Dr. Frank J. Amodio, a specialist in allergy and clinical immunology in Evansville, has been appointed to the Ohio Valley Allergy Society.

Dr. Scott A. Shapiro, Wishard Hospital, Indianapolis, recently presented three posters at the 1988 American Association of Neurological Surgeons annual Cushing meeting; he also recently published articles on neurotransmitter changes in spinal cord injury and the origin of shunt infections.

Dr. Dale A. Rouch has been appointed program director of hepatic transplantation at Methodist Hospital in Indianapolis.

Dr. James E. Whitfield, a Kokomo family practitioner and medical director of Burlington Clinic Medifast, participated in the Second Annual Conference on Management of the Overweight Patient in Dearborn, Mich.

New ISMA Members

Jose M. Bonnin, M.D., Indianapolis, anatomic and clinical pathology.

Jeffrey P. Chapman, M.D., Warsaw, urological surgery.

Mark G. Evenson, M.D., LaPorte, anatomic and clinical pathology.

George E. Geier, M.D., Marion, urological surgery.

James B. Harris, M.D., South Bend, pediatrics.

William J. Lynn, M.D., Indianapolis, family practice.

Chandrika R. Raval, M.D., Fort Wayne, internal medicine.

Robert J. Robison, M.D., Indianapolis, cardiovascular surgery.

Alan Scher, M.D., Union City, general surgery.

Mohit K. Sheth, M.D., Evansville, cardiovascular diseases.

Michael J. Summers, M.D., Greenfield, family practice.

John S. Tetrick, M.D., Indianapolis, family practice.

Residents:

John H. Abrams, M.D., Indianapolis, ophthalmology.

Edward W. Boyts, M.D., South Bend, family practice.

Thomas L. Gross, M.D., Indianapolis, internal medicine.

Connie D. Harrill, M.D., Carmel, radiology.

Karen E. Lister, M.D., Indianapolis, anatomic and clinical pathology.

Clovis E. Manley, M.D., Evansville, family practice.

John P. Moran Jr., M.D., Muncie, internal medicine.

Send your news items and comments to the Editor, *INDIANA MEDICINE*, 3935 N. Meridian St. Indianapolis 46208.

CME QUIZ . . . CONTINUED FROM PAGE 719

- normal except for rapid fasciculations in the left deltoid muscle. The best conclusion is:
- The patient probably has benign fasciculations.
 - The patient probably has amyotrophic lateral sclerosis.
 - The patient needs an emergency myelogram.
 - Any disorder of anterior horn cell nerve root or peripheral nerve may result in a fasciculation, and therefore fasciculations are not specific for motor neuron disease.
- The etiology of ALS is unknown. Recent areas of active investigation include:
 - A primary immunologic disorder.
 - A disorder of a motor neuron trophic factor, such as the peptide TRH.
 - Selective motor neuron damage by environmental toxins.
 - All of the above.
 - Current standard therapy for patients with ALS includes:
 - Physical and occupational therapy to keep the patient as functional as possible.
 - Attention toward dysphagia and alternatives for feeding.
 - Monitoring for respiratory insufficiency and long-term counseling for management options of this problem.
 - All of the above.
 - Accepted therapies of proven benefit in the treatment of ALS include:
 - TRH.
 - Immunosuppressive therapy.
 - Snake venom injections.
 - All of the above.
 - None of the above.

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MUSEUM NOTES . . .

CONTINUED FROM PAGE 672

been cast in a century that has been a bank of knowledge, of wisdom and of great deeds. Much of it I have seen, and a small part of it I have been. Surely I have no cause for regret. I have looked into the face of Abraham Lincoln and heard him speak. A man once said to me that he would be willing to have his hair as white as mine if he could have seen that great man.

Our band is soon to die, but while life continues we shall never lose our interest in the welfare of the land we love so well."

Readers who are interested in the full text of Dr. Kemper's talk will find it in the October 1918 issue of THE JOURNAL OF THE INDIANA STATE MEDICAL ASSOCIATION, pages 367-369.

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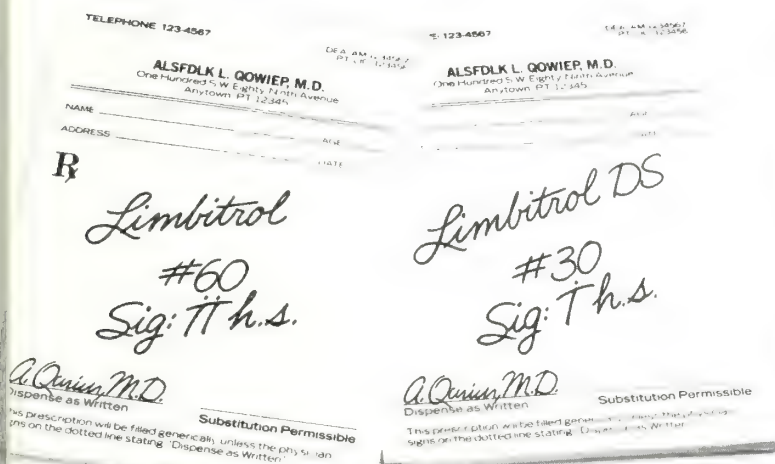
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References: 1. Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 2. Feighner VP, et al: *Psychopharmacology* 61:217-225, Mar 22, 1979.

Limbitrol® (IV) Tranquilizer—Antidepressant

Before prescribing, please consult complete product information, a summary of which follows:

Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants; concomitant use with MAOIs or within 14 days of monoamine oxidase inhibitors (then initiate cautiously, gradually increasing dosage until optimal response is achieved); during acute recovery phase following myocardial infarction.

Warnings: Use with caution in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur when used with anticholinergics. Closely supervise cardiovascular patients. Arrhythmias, sinus tachycardia, prolongation of conduction time, myocardial infarction and stroke reported with tricyclic antidepressants, especially in high doses. Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

Usage in Pregnancy: Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations. Consider possibility of pregnancy when instituting therapy.

Withdrawal symptoms of the barbiturate type have occurred after discontinuation of benzodiazepines (see Drug Abuse and Dependence).

Precautions: Use cautiously in patients with a history of seizures, in hyperthyroid patients, those on thyroid medication, patients with impaired renal or hepatic function. Because of suicidal ideation in depressed patients, do not permit easy access to large quantities of drug. Periodic liver function tests and blood counts recommended during prolonged treatment. Amitriptyline may block action of guanethidine or similar antihypertensives. When tricyclic antidepressants are used concomitantly with cimetidine (Tagamet), clinically significant effects have been reported involving delayed elimination and increasing steady-state concentrations of the tricyclic drugs. Use of Limbitrol with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Should not be taken during the nursing period or by children under 12. In elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects. Inform patients to consult physician before increasing dose or abruptly discontinuing this drug.

Adverse Reactions: Most frequent: drowsiness, dry mouth, constipation, blurred vision, dizziness, bloating. Less frequent: vivid dreams, impotence, tremor, confusion, nasal congestion. Rare: granulocytopenia, jaundice, hepatic dysfunction. Others: many symptoms associated with depression including anorexia, fatigue, weakness, restlessness, lethargy.

Adverse reactions not reported with Limbitrol but reported with one or both components or closely related drugs: **Cardiovascular:** Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke. **Psychiatric:** Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania, increased or decreased libido. **Neurologic:** Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns. **Anticholinergic:** Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract. **Allergic:** Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus. **Hematologic:** Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia. **Gastrointestinal:** Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue. **Endocrine:** Testicular swelling, gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion. **Other:** Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

Drug Abuse and Dependence: Withdrawal symptoms similar to those noted with barbiturates and alcohol have occurred following abrupt discontinuance of chlordiazepoxide; more severe seen after excessive doses over extended periods; milder after taking continuously at therapeutic levels for several months. Withdrawal symptoms also reported with abrupt amitriptyline discontinuation. Therefore, after extended therapy, avoid abrupt discontinuation and taper dosage. Carefully supervise addiction-prone individuals because of predisposition to habituation and dependence.

Overdosage: Immediately hospitalize patient. Treat symptomatically and supportively. I.V. administration of 1 to 3 mg physostigmine salicylate may reverse symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

How Supplied: Double strength (DS) Tablets, white, film-coated, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt), and Tablets, blue, film-coated, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 50.



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In the depressed and anxious patient

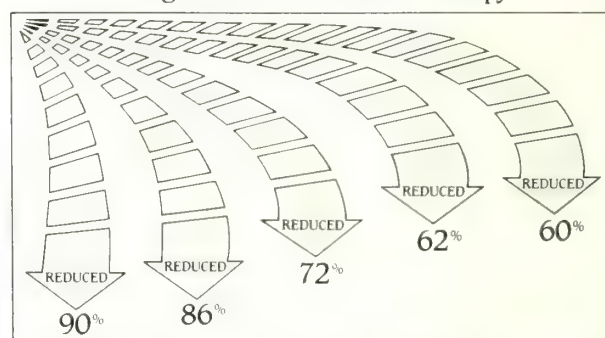
See Improvement In The First Week...¹

And The Weeks That Follow

- ➡ 74% of patients experienced improved sleep after the first *h.s.* dose¹
- ➡ First-week reduction in somatic symptoms¹

Caution patients about the combined effects of Limbitrol with alcohol or other CNS depressants and about activities requiring complete mental alertness, such as operating machinery or driving a car. In general, limit dosage to the lowest effective amount in elderly patients.

Percentage of Reduction in Individual Somatic Symptoms During First Week of Limbitrol Therapy*



VOMITING NAUSEA HEADACHE ANOREXIA CONSTIPATION

*Patients often presented with more than one somatic symptom.

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Please see summary of product information inside back cover.



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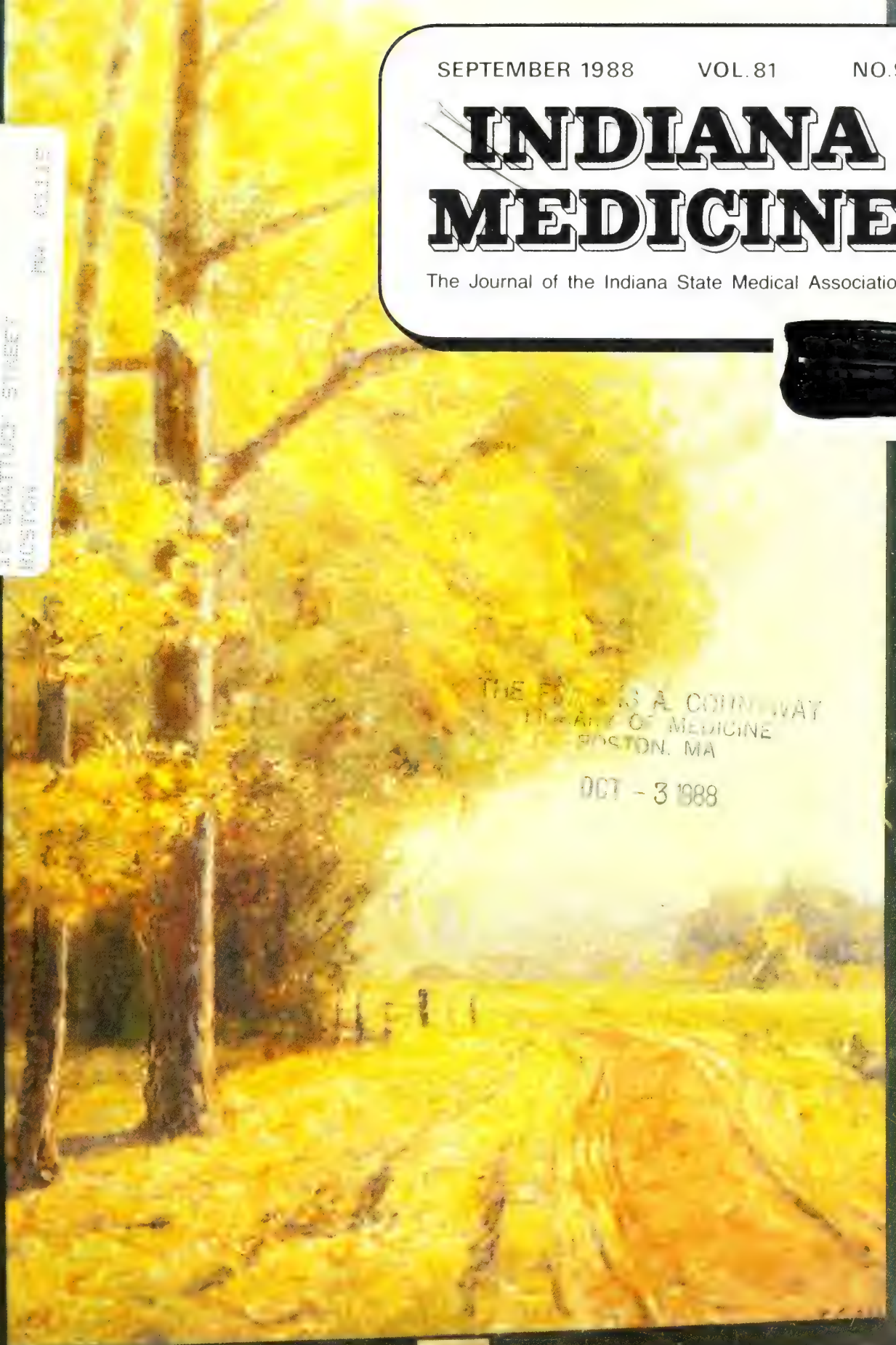
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Indianapolis

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- Medical Section Meetings
- General Scientific Meeting
- President's Dinner and Dance



**MAINTAINING
THE BALANCE
of
MEDICAL
CARE**

INDIANA MEDICINE

Vol. 81, No. 9
SEPTEMBER 1988

Devoted to the interests of the medical profession and public health in Indiana since 1908.

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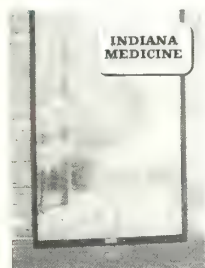
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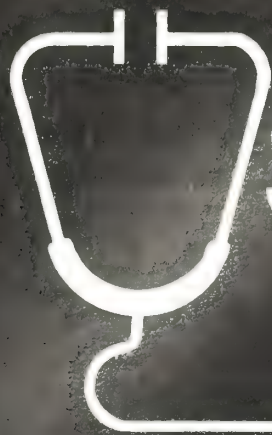
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ABOUT THE COVER

"Autumn Trees" by T.C. Steele is one of several paintings
that were saved when the Burdsal unit at Wishard Memorial
Hospital was razed in the mid-1960s. Information on the
physicians who helped obtain and preserve works of some
Hoosier artists is part of this month's Medical Museum
Notes.—PHOTO BY DAVID JAYNES, MEDICAL ILLUSTRATION
DEPARTMENT, INDIANA UNIVERSITY SCHOOL OF MEDICINE





STETHOSCOPE

EXAMINING STATE & NATIONAL MEDICAL ISSUES

Medicare carriers now are required to disclose the written policies used for making medically "unnecessary" determinations. This turn around is due to AMA lobbying. Policy statements issued should identify the type of evidence needed to justify services which exceed the carrier's frequency boundaries for specific medical treatments (e.g. three CAT scans in 30 days).

AMA urged access to the medical necessity policies in an effort to reduce the number of medically "unnecessary" refund letters sent to doctors and patients.

The Harvard Resource Based Relative Value Scale is not expected to be issued until late September, two and one-half months later than originally expected. AMA will issue a policy statement as soon as the RBRVS can be reviewed.

Stay tuned for further developments in the House and Senate bills that would regulate physician office laboratories. AMA successfully urged some changes in the House bill. Among them: 1) to recognize the practicality and potential of physicians' labs in saving patients' money; 2) to not restrict referrals to laboratories and 3) to differentiate personnel standards based on laboratory practice setting and the scope and volume of work performed.

Catastrophic Care law is still receiving mixed reviews. Changes have prompted many questions about just what is and is not covered. Major features: an unlimited number of free hospital days after an annual deductible of \$564 is met; (under current law, beneficiaries receive only 90 days of free hospital care); Medicare will pay 50 percent of the cost of prescription drugs beginning in 1991 after a \$600 deductible has been met; prescription coverage is expanded in 1992 to 60 percent and 80 percent in 1993; out of pocket expenses will be capped at \$1,370 for physician and other Part B services.

Anticipated costs of program: \$31 billion over the next five years. The increase in premiums is expected to be about \$4 a month in 1989 and \$10.20 a month in 1993.

The Indiana Federation of Older Hoosiers is staffing a catastrophic care hotline to respond to questions about the changes the new bill will make in Medicare benefits. The service is cosponsored by Blue Cross/Blue Shield. Call 1-800-356-7748.

AMA's bill to reform Medicare has an additional sponsor, bringing the total to five. Rep. Edolphus Towns, D-NY, has signed on the measure. ISMA President John MacDougall, M.D. explained to members of the Indiana Federation of Older

Hoosiers how the reform program will work. The meeting was one of a series held over the last three years to discuss topics of common concern.

IN INDIANA

The Interim Study Committee on Health Issues heard testimony Aug. 11 on a proposal to establish an oversight committee on the Medicare and Medicaid carrier, but took no action. A recommendation is not expected before fall.

ISMA's Board of Trustees earlier voted not to support an oversight commission at this time. John D. MacDougall, M.D., ISMA president, had already scheduled a series of meetings with Blue Cross/Blue Shield to hammer out solutions to systematic reimbursement problems.

Reasons for not supporting the oversight commission included: 1) No control of just what the oversight commission would investigate; (i.e. the commission could choose to investigate physicians as well as the Medicare carrier and could conclude that mandatory assignment would solve reimbursement problems.) 2) The time required before a commission could actually be appointed, collect data, complete its investigation and issue recommendations, and 3) How much clout such a committee would have since Medicare is a federal program administered by the Health Care Financing Administration.

Legislative dinners continue this month as ISMA physicians meet with incumbents and candidates in a grass roots lobbying effort. Dinners upcoming include: Jeffersonville, Sept. 8; Indianapolis, Sept. 29; Fort Wayne, Oct. 6 and Evansville, Oct. 11.

Peerview is cautioning patients, physicians, hospitals and others about the improper release of confidential information. It is inappropriate to release PRO denial, pre-denial, or reconsideration notices which have patient specific information, without obtaining releases from patients, according to Peerview.

Patients or physicians may release information about themselves as long as the information does not identify another patient or physician. Similarly, institutions may release information about themselves, as long as no individual patients or practitioners are identified.

ISMA is planning a pilot project called the Medicare Assistance Program (MAP). MAP is a voluntary program whereby physicians agree to accept assignment for low income elderly. While most physicians do this automatically when they know a patient has financial difficulties, this program alleviates the problem of older persons not seeking care because they can't afford it.

Present plans are to implement a pilot project in one county. After a trial period, and if the program is successful, other counties who wished could establish similar programs locally.

This program has been successful in other states in preventing mandatory assignment.

MEDICAL MUSEUM NOTES



CHARLES A. BONSETT, M.D., Indianapolis

THIS PAGE OF Medical Museum Notes is primarily about T. Victor Keene, M.D. Dr. Keene is of interest because of his role in providing for a remarkable set of murals for the Indianapolis City Hospital (now Wishard Memorial Hospital) in 1914 and for his role in bringing the national headquarters of the American Legion to Indiana after World War I.

Dr. Keene was born in Evansville in 1881 but moved to Indianapolis during his childhood. He received his B.A. and M.D. degrees from the University of Michigan and later did postgraduate work in Berlin. Still later, he became a member of the Indianapolis City Board of Health and the Indiana State Board of Health. During World War I he served as a lieutenant colonel and was commander of Base Hospital 70 in France.

Keene's first notable experience appears in the 1911 newspapers. He had been appointed to the City Board of Health on June 1 of that year by Mayor Shank. Control of the board and the hospital was political and strictly partisan. A physician's merit was neither the critical factor for his appointment nor for his removal from office. Party was the first consideration.

Keene seems to have upset his board colleagues early on. *The Indianapolis Star* for July 19, 1911, reports on page 14 that Keene "is a troublemaker." The superintendent of City Hospital, Dr. J.L. Freeland, called him a "four-flusher" and said that Keene had caused more trouble on the board than the board had ever before experienced.

This outburst in the paper led the mayor to announce that soon another board member would be replaced.

Keene was a shaker and a mover. It seems that he opposed a new addition to City Hospital because the room designs were too small and the general planning was inadequate. He felt that the proposed addition should be put out for competitive planning. Mayor Shank gave the board free reign and supported Keene's opinion that the existing architect must be fired.

Money for the addition to the hospital was given by Alfred Burdsal of the Burdsal Paint Company, and in due time the addition was completed. Keene, who was president of the board by this time, urged the St. Margaret's Guild to donate \$200 for something unusual for this part of the hospital.

They gave more—much more.

Keene formed a committee of the state's most outstanding artists, T.C. Steele, William Forsythe, Wayman Adams and Otto Stark, who together made an unusual proposal. For a token sum, they and other well known Hoosier artists would paint murals on the canvas walls of the pediatric and other wards of the new addition. The offer was accepted.

Dr. Thurman Rice, writing years later, said that if placed end to end the murals would extend for more than a quarter of a mile in length.

You won't find that many today, however.

Before the Burdsal units were razed in the mid-1960s, Dr. Jack Hickman initiated a drive to remove and preserve

the murals. At least one large mural is now in the collection of the Indianapolis Museum of Art, and another is in storage at the Indiana State Museum. Several still can be viewed in the administrative offices and the Myers Auditorium of Wishard Memorial Hospital. ("Autumn Trees," the painting by T.C. Steele that appears on this cover of *INDIANA MEDICINE*, hangs in Myers Auditorium.) Dr. Hickman was successful in his effort to save many of the murals, but no one seems to know what happened to most of them during the past quarter century.

Now, back to Dr. Keene.

At the end of World War I, Colonel Keene became active in the American Legion. The first national meeting of the organization was held in Minneapolis, Minn., Nov. 12, 1919. Indianapolis and eight other cities were competing to be selected as the site of the national headquarters. Keene was Indiana's representative. He spent \$5,000 on his campaign, which he commenced by giving each of the elevator girls a five-pound box of candy with instructions for them to direct all delegates to the Indiana suite. The rest of Keene's strategy, once he could button-hole the delegates, is not clear, but, whatever it was, it worked. An appreciative life-size oil painting of Dr. Keene in his World War I uniform, done by Wayman Adams, still can be found in the fourth floor Blackmore Museum of the American Legion's National Headquarters Building in downtown Indianapolis.

Dr. Keene died Dec. 12, 1961.



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WHAT'S NEW?

Bristol Laboratories has introduced two cough/cold products, Naldecon Senior DX™ and Naldecon Senior EX™. They are the first such products with a combination of formulation and packaging meant to address the needs of many older adults. Naldecon Senior EX is used for loose, productive coughs, while Naldecon Senior DX is used for dry, hacking coughs. The products are unique in that they do not contain decongestants, antihistamines, sugar or alcohol.

Wampole Laboratories is the manufacturer of the Virogen® Rubella Slide Test, a simple-to-run latex agglutination test for detection of rubella virus antibody in serum. Studies have reported sensitivity as high as 99.4%, and specificity greater than 99.9% when compared to the HAI assay. The results correlate to the 1:8 dilution standard recommended by NCCLS.

Pacific Biosystems announces Medi-Clens, a fully automated hand-cleansing system. The system provides a high degree of effectiveness in removing resident and transient microorganisms from hands. In a neonatal nursery, Medi-Clens was found to be 41% more effective than the conventional hand scrub. Combining an automated scrubbing device with a proprietary antimicrobial formulation, Medi-Clens is expected to provide effective bacteriological control in surgery, emergency treatment rooms, physicians' offices, nursing homes and other healthcare facilities.

The Anatomical Chart Company, Chicago, Ill., has issued a new 240-page catalog. It lists over 5,000 products, and claims to have the world's largest collection of innovative and educational products on health, human anatomy and science-related topics.

Mead Johnson Nutritionals introduces Double-Strength Tempra® tablets, the only chewable 160 mg acetaminophen on the market. The new dosage will be available Oct. 1. The tablets are grape-flavored, the most popular fruit flavor for children, according to one survey.

News of what is new in the medical supply industry is composed of abstracts from news releases by book publishers and manufacturers of pharmaceuticals, clinical laboratory supplies, instruments and surgical appliances. Each item is published as news and does not necessarily constitute an endorsement of a product or recommendation for its use by INDIANA MEDICINE or by the Indiana State Medical Association.

Wampole Laboratories announces improvements in MONO-LATEX®. This one-step, two-minute latex agglutination slide test for detecting infectious mononucleosis antibodies is now available with room temperature storage (up to +25°C). Product dating has been extended up to 18 months from date of manufacture.

The Johns Hopkins University Press announces a new book, *The New Medical Marketplace: A Physician's Guide to the Health Care Revolution*. Written by Anne Stoline, M.D., and Jonathan P. Weiner, Ph.D., the book deals with the business aspects of medical practice and the rapidly changing outside influences on a practice. The 220-page book sells for \$12.95 in paperback and \$26.50 in hardcover.



Ross Laboratories, Columbus, Ohio, has introduced the FLEXIFLO® Companion® Enteral Nutrition Pump, the first enteral feeding pump to use volumetric infusion and a cassette to deliver measured amounts of enteral formula. This special design is a safety advantage in lessening the potential for accidental product free flow.

Brentwood Instruments, Inc. announces Spiroscan 2000, the latest technology in speeding and simplifying pulmonary function testing in physicians' offices. At the touch of a button, all measurements and calculations are automatically displayed. A suggested interpretation also is provided for the physician's review and diagnosis. The Spiroscan has an easily removable, complete air passage, which can be completely autoclaved or chemically sterilized to eliminate cross contamination between patients.

Prentice Hall announces *Forensic Science Handbook, Volume II*. It is edited by Richard Saferstein, chief forensic scientist, New Jersey State Police. The handbook covers the latest techniques in identifying controlled substances, in textile fiber examination, in paternity testing, and in identifying and individualizing semen stains. A free, 15-day trial offer is available. The book is priced at \$64.

Norwich Eaton Pharmaceuticals introduces an acute therapy compliance package for its urinary tract antibacterial, Macrochantin®. The compliance package costs the same as an equal number of capsules dispensed from a bottle. It is called MACPACT™ and includes individual DayCards™ for each of the seven days of medication. The DayCards remind the patient to take the four capsules a day and to take them with food. Each capsule is labeled according to the meal with which it should be taken. A patient information leaflet is included.

Medical Video Productions announces the release of the first journalistic video presentation on evidence of the role of atherosclerotic plaque rupture and thrombosis in myocardial infarction, ischemic sudden death and acute coronary unstable angina. This is the 15th issue of the MVP Video Journal of Cardiology, a video cassette publication received by 5,000 physicians bimonthly. Other video journals published by MVP include the Video Journal of Orthopaedics and the Video Journal of Ophthalmology.



Not everyone over 60 needs our special services, but we still feel they deserve them

We don't have stereotyped ideas about older people all being needy or in frail health. We know that many of our customers who are over sixty are in great shape both physically and financially. Still, we offer *everyone* over sixty a 10% discount, and we'll help with Medicare and Medicaid forms whenever anyone needs us to. It's our way of thanking our older customers, because many of them have been our best customers for a long time

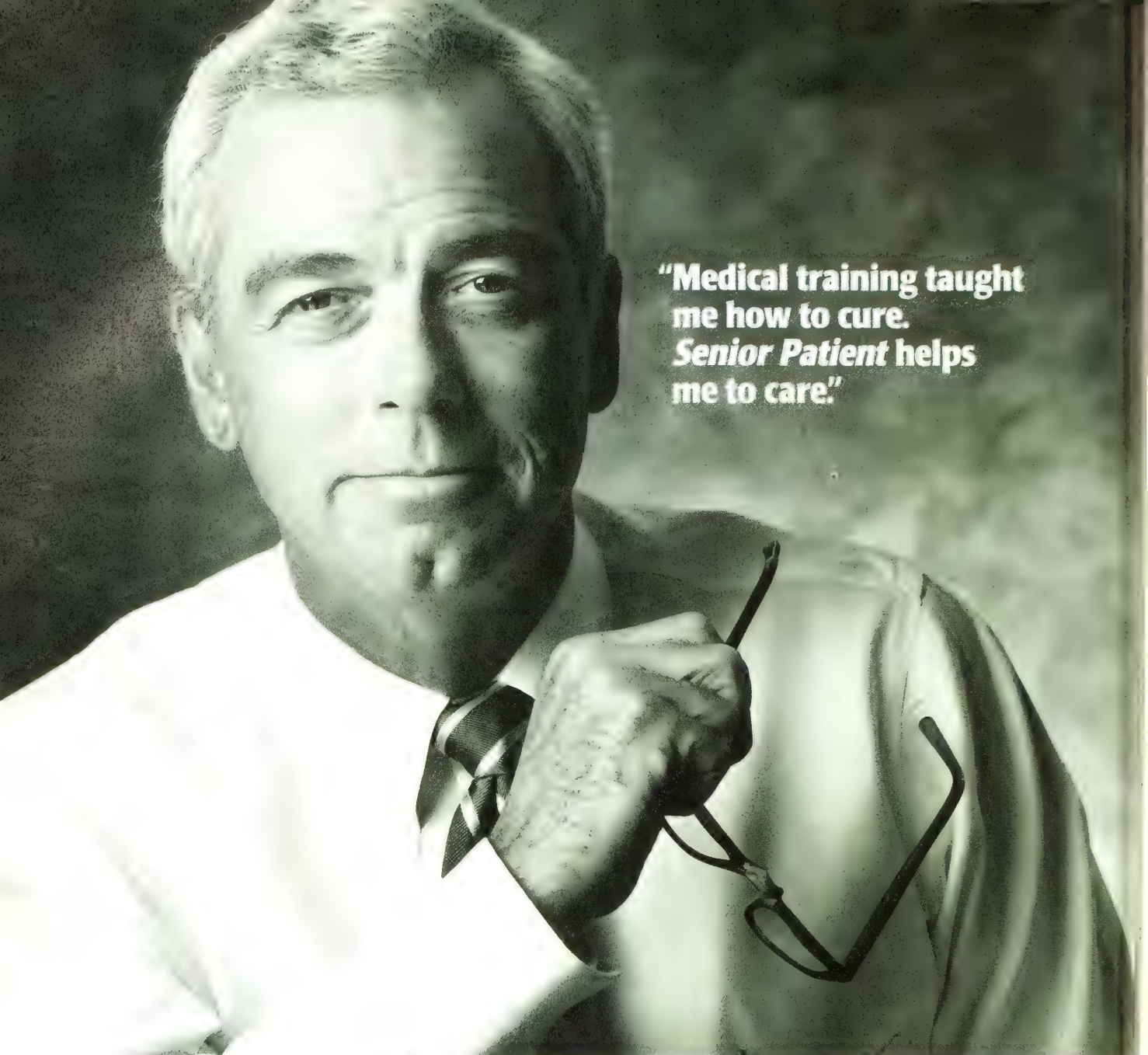
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FUTURE FILE

Indiana University CME

Sept. 23: Indiana Neonatal Society Meeting, University Place Executive Conference Center and Hotel, Indianapolis.

Sept. 26-28: Advanced Echocardiography 1988: Celebrating 25 Years of Echocardiography in America, University Place Executive Conference Center and Hotel, Indianapolis.

Sept. 29: Gastroenterology Update, University Place Executive Conference Center and Hotel, Indianapolis.

Oct. 12-13: 16th Annual Fall Symposium, Acute Pediatric Emergencies, University Place Executive Conference Center and Hotel, Indianapolis.

Oct. 15-16: Advanced Trauma Life Support, Tudor Auditorium, Wishard Memorial Hospital, Indianapolis.

Oct. 20: Current Management of Major Problems in Gastroenterology, Reid Memorial Hospital, Richmond, Ind.

Oct. 20-21: Third Symposium on Endothelial Seeding, University Place Executive Conference Center and Hotel, Indianapolis.

Nov. 3-4: Garceau-Wray Lectures, Wishard Memorial Hospital, Indianapolis.

Nov. 18-19: Fall Meeting, Indiana Chapter, American College of Surgeons, Embassy Suites North, Indianapolis.

Dec. 2: Geriatric Seminar, Vigo County Public Library, Terre Haute.

Dec. 2-3: Big Four Classic—RhinoPlasty '88, University Place Executive Conference Center and Hotel, Indianapolis.

For more information on these and other CME programs, contact Melody Dian, assistant CME director, (317) 274-8353.

Hand Surgery

"The Wrist 1988" is the title of a meeting sponsored by the American Society for Surgery of the Hand Nov. 2-5 at the Saddlebrook Resort, Tampa, Fla. Registration is limited. For more information, contact: The American Society for Surgery of the Hand, 3025 S. Parker Rd., Suite 65, Aurora, Colo. 80014—(303) 755-4588.

The *Journal of the American Medical Association* publishes a list of CME courses for the United States twice yearly. The January listing features courses offered from March through August; the July listing features courses offered from September through February.

St. Mary's Medical Center

The following continuing medical education programs are offered through St. Mary's Medical Center, 3700 Washington Ave., Evansville:

Sept. 15: Joseph E. Coleman Pediatric Seminar, "The Critically Ill Child."

Oct. 13: The Endocrine Seminar—Part IX, "Endocrine Emergencies."

Nov. 3: Family Medicine Seminar, "G.I. Pathologies of Today."

Further details may be obtained by calling (812) 479-4468.

Newborn Symposium

The University of Louisville School of Medicine, Department of Pediatrics, will present the 22nd Annual Newborn Symposium at Kosair Children's Hospital Auditorium, 200 E. Chestnut St., Louisville, Ky., Nov. 10 and 11.

The program will concern cardiopulmonary problems, supplemented by a half-day of general pediatric topics.

For additional information, call (502) 562-8826.

Pediatrics Seminar

Common conditions encountered in pediatric practice will be discussed Oct. 28 and 29 during a seminar sponsored by the Department of Pediatrics and Continuing Medical Education at the University of Wisconsin Medical School.

The program will be held in the University of Wisconsin Hospital and Clinics, Madison, Wis.

More information is available from: Cathy Means, Continuing Medical Education, 2715 Marshall Court, Madison, Wis. 53705—(608) 263-6637.

Primary Care

"A Primary Care Update" is the topic of the 73rd Scientific Assembly of the Interstate Postgraduate Medical Association, which meets Oct. 31 to Nov. 3 at Bally's Hotel in Reno, Nev. A faculty of 41 medical educators will highlight key topics such as cardiology, geriatrics, endocrinology, gynecology, orthopedics, breast cancer, pediatrics and gastroenterology. Practical office management for primary care physicians will be emphasized. Program and registration materials are available from IPMA, P.O. Box 1109, Madison, Wis. 53701—(608) 257-6781.

Elbow Reconstruction

"Surgical Reconstruction of the Elbow" will be the topic of an Oct. 17 presentation at the Indiana Center for Surgery and Rehabilitation of the Hand and Upper Extremity. Hill Hastings, M.D., will present the monthly Monday Night Hand Conference at 7 p.m. at the center, 8501 Harcourt Road, Indianapolis.

The conferences are presented as continuing education for practicing physicians, hand fellows, orthopedic residents, hand therapists and other interested people.

For information on this conference and future conferences, call Beth Bush, conference coordinator, (317) 875-9105.

Nutritional Support

The patient with special nutritional needs will be the subject of a two-day course entitled "Nutritional Support: Physiology, Biochemistry, and Current Day Management."

Scheduled Oct. 6 and 7 at the Towsley Center, Ann Arbor, Mich., the course is sponsored by the Parenteral and Enteral Nutrition Team and the Section of Pediatric Surgery of the University of Michigan Medical School.

For more information, contact Debbie DeSmyther, Office of CME, Towsley Center, Box 0201, University of Michigan Medical School, Ann Arbor, Mich. 48109-0201—(313) 763-1400.

Methodist Hospital CME

Sept. 28: Healthy Babies in Indiana: A New Commitment, Viscount Hotel.

Oct. 6: New Concepts in Total Hip Replacement, Hyatt Regency Hotel, Indianapolis.

Oct. 17-23: Ultrasound Mini-Fellowship, Methodist Hospital Radiology Department.

Oct. 21-22: Advanced Cardiac Life Support Course, Methodist Hospital, Wile Hall.

Oct. 25-26: The First Purdue Conference on Cardiac Assistance with Skeletal Muscle, Purdue University, West Lafayette, Ind.

Oct. 27: The 1988 Indiana Sports Medicine Education Seminar, Viscount Hotel, Indianapolis.

Oct. 30: Indiana Radiation Therapy Association Annual Meeting, Methodist Hospital Auditorium.

Nov. 2: Annual Lester Bibler Lecture, Methodist Hospital Auditorium.

Nov. 2-3: 7th Annual Methodist Hospital Pediatric Care Symposium: Emergency Department Pediatric Critical Care, Viscount Hotel, Indianapolis.

Nov. 3: Visiting Professorship: Cleft Lip & Palate, Janusz Bardach, M.D., University of Iowa.

Nov. 11: Neuro-Ophthalmology and Orbital Surgery Update, Hilton on the Circle, Indianapolis.

Nov. 11-12: Advanced Trauma Life Support Course, Methodist Hospital Auditorium.

Nov. 16: 7th Annual Symposium on Ethical and Moral Issues: Rationing Dilemmas—The 21st Century, Hyatt Regency Hotel. Co-sponsor: St. Vincent Hospital.

Nov. 19: Fracture Management, Methodist Hospital.

For more information, contact Dixie Estridge, CME coordinator, Graduate Medical Center, Methodist Hospital of Indiana—(317) 929-3733.

Urinary Incontinence

A Consensus Development Conference on "Urinary Incontinence in Adults" will be conducted Oct. 3-5 in Masur Auditorium, Warren Grant Magnuson Clinical Center, National Institutes of Health, Bethesda, Md.

For information, contact Barbara McChesney, (301) 468-6555.

Cancer Conference VII

"Genitro-Urinary Malignancies" will be addressed by the Cincinnati Academy of Medicine's Cancer Conference VII. The course will be offered Nov. 11 and 12 at the Westin Hotel, Cincinnati, Ohio.

Physicians from the U.S. and England comprise the faculty.

For details, contact: Tom O'Connor, Cincinnati Cancer Conference, Suite 211, 2800 Winslow Ave., Cincinnati, Ohio 45206—(513) 569-6403.

Diagnosis and Management of Common Rheumatologic Disorders: Second Annual Conference

Date/Location:

October 29, 1988
The Humana Building
Louisville, Kentucky

Course Directors:

Thomas R. Lehmann, M.D.
Paul D. Schneider, M.D.

Guest Faculty:

Jon Coblyn, M.D., Boston
Marc C. Hochberg, M.D., Baltimore
Roger Jackson, M.D., Kansas City
John Sergeant, M.D., Nashville

Louisville Faculty:

Ernest A. Eggers, M.D.
Thomas R. Lehmann, M.D.
Malton A. Schexneider,
M.M.Sc., P.I.
Paul D. Schneider, M.D.

Objectives:

At the conclusion of this course, physicians will be able to utilize a multidisciplinary approach to discuss interventions for specific cases; review recent advances in rheumatologic management;

discuss current and future trends as related to the rheumatologic patient; and better manage low back syndromes in clinical practice.

Program Highlights:

- Approaching the Patient With New Polyarthritides
- Newer Treatment Strategies in the Management of Rheumatoid Arthritis
- Vasculitis: An Overview
- The Polymyalgia — Temporal Arteritis Syndrome
- Conservative Management of the Low Back
- Diagnostic Evaluation of Low Back Pain, Facet Joint Injections,

Diskography and Other Imaging Techniques

- Rehabilitation of Low Back Pain Patients
- Mobilization and Work Hardening of Low Back Disability

Registration:

Physicians\$25
Residents, FellowsFree

Accreditation:

6 hours AMA/CME

Information:

Mr. Michael Galvin
Humana Hospital — Suburban
4001 Dutchmans Lane
Louisville, KY 40207
PH: (502) 893-1217
PH: (502) 893-1171

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To obtain Category 1 credit for this month's article, complete the quiz on page 797.



Brain Abscess: A Review

KAREN L. ROOS, M.D.
Indianapolis

A BRAIN ABSCESS is a focal suppurative process within the brain parenchyma that becomes manifest by headache, focal neurological signs and symptoms, vomiting and seizure activity. Despite advancements in neuroimaging, the availability of potent antimicrobial agents and sophisticated neurosurgical techniques, the morbidity and mortality from brain abscess remains high. Outcome is affected most by rapid diagnosis and early intervention.

Etiology

A brain abscess may develop in any of the following clinical settings: 1) by direct spread from a contiguous cranial site of infection; 2) following cranial trauma, either surgical or accidental; 3) as a result of hematogenous spread from a remote site of infection; and 4) cryptogenic (in approximately 20% of cases).¹

The most common predisposing condition leading to the development of a

brain abscess is direct spread of bacteria from a contiguous cranial site of infection such as otitis media, odontogenic infections, frontal sinusitis or mastoiditis, or by retrograde septic thrombophlebitis from these sites of infection.² The primary etiology of the infection determines the causative organism and the location of the abscess within the brain.

Abscesses that develop as a result of direct spread of infection from the frontal, ethmoidal or sphenoidal sinuses are usually found in the frontal lobes. The majority of otogenic brain abscesses develop in the temporal lobes, followed by the cerebellum.¹ The occurrence of a brain abscess as a complication of otitis media has a bimodal age distribution, with a peak in the pediatric age group secondary to acute otitis media and a second peak after age 40 associated with chronic otitis media.³ Brain abscess develops as a complication of chronic otitis media and mastoiditis four to eight times

From the Department of Neurology, Indiana University School of Medicine.

Acknowledgment: The assistance of David J. Rippe, M.D., in the preparation of the radiographs is greatly appreciated.

Correspondence and reprints: Karen L. Roos, M.D., Department of Neurology, Wishard Memorial Hospital RG-6th Floor, 1001 W. 10th St., Indianapolis, Ind. 46202.

more frequently than as a complication of acute infection in these areas.

Brain abscesses that develop from paranasal sinusitis occur predominantly in the 10-30 year age group. The majority of brain abscesses that develop from dental sepsis occur in the frontal lobes and are the result of a recent extraction of a molar tooth. Anterior dental infections drain into the oral cavity and rarely result in a brain abscess.¹

Metastatic abscesses that are the result of infection elsewhere in the body can occur throughout the brain, but tend to form primarily in areas supplied by the middle cerebral artery (i.e., posterior frontal or parietal lobes). These abscesses are usually located at the interface of gray-white matter where capillary blood flow is slowest. Chronic pyogenic lung diseases are the most common associated infections, but wound and skin infections, endocarditis, osteomyelitis, and intraabdominal and pelvic infections also may be the source of a brain abscess.

A common cause of brain abscess in infants and children is cyanotic congenital heart disease, with Tetralogy of Fallot and transposition of the great vessels being the most frequent anomalies cited. As a general rule, a brain abscess develops only in an area of necrosis. A predisposing factor to brain tissue necrosis in cyanotic congenital heart disease is polycythemia, which causes intravascular thrombosis and reduces the rate of blood flow in the microcirculation of the brain, leading to brain hypoxia or infarction. In addition, the presence of a right-to-left shunt precludes the filtering of virulent bacteria by the lungs. Bacteria reach the brain and are able to establish infection in areas of focal cerebral damage from microinfarction and reduced tissue oxygenation.^{1,2,4,7}

Pathology

Results of animal experiments suggest that for bacterial invasion of brain parenchyma to occur, there must be preexisting or concomitant areas of ischemia, necrosis or hypoxia in brain

<p>TABLE 1 Correlation of Histopathology with CT Scan: Appearance of Experimental <i>S. Aureus</i> Brain Abscess</p>	
<u>Histopathologic Stage/</u> <u>Characteristics</u>	<u>CT Scan Appearance</u>
<p><u>Early Cerebritis</u></p> <ol style="list-style-type: none"> 1. Perivascular infiltration of inflammatory cells surrounding a central area of coagulative necrosis 	<p><u>Early Cerebritis</u></p> <ol style="list-style-type: none"> 1. Low density lesion with faint contrast enhancement at the lesion's edge 2. Delayed scans* show diffusion of contrast into the low-density center
<p><u>Late Cerebritis</u></p> <ol style="list-style-type: none"> 1. Necrotic center has reached its maximal size and is surrounded by an inflammatory infiltrate 2. Rapid new vessel formation around abscess 	<p><u>Late Cerebritis</u></p> <ol style="list-style-type: none"> 1. Larger low density lesion than in the early cerebritis stage 2. Prominent ring enhancement following contrast administration 3. Delayed scans continue to reveal diffusion of contrast into the low density center
<p><u>Early Capsule Formation</u></p> <ol style="list-style-type: none"> 1. Necrotic center decreases in size and the inflammatory infiltrate changes in character 2. Capsule forms that is better developed on the cortical than on the ventricular side of the lesion 	<p><u>Early Capsule Formation</u></p> <ol style="list-style-type: none"> 1. The area of low density and the diameter of ring-contrast enhancement has decreased in size 2. There is no significant inward diffusion of contrast on delayed scans
<p><u>Late Capsule Formation</u></p> <ol style="list-style-type: none"> 1. Well-formed necrotic center surrounded by a peripheral zone of inflammatory cells and a dense collagenous capsule 	<p><u>Late Capsule Formation</u></p> <ol style="list-style-type: none"> 1. The low-density lesion is surrounded by a sharply demarcated, dense ring of contrast enhancement

* Delayed scans obtained 30 minutes after infusion of intravenous contrast. Adapted from 4, 8-10.

tissue.⁴ The intact brain parenchyma is relatively resistant to infection.* Once bacteria have established infection, brain-abscess formation evolves

through four stages, regardless of the infecting organism. These stages have been described from animal models of brain abscess, and have been shown to

correlate well with human brain abscess evolution as observed by computed tomography imaging (Table 1). These stages are: early cerebritis, late cerebritis, early capsule formation, and late capsule formation.

The early cerebritis stage (day 1-3) is characterized by perivascular infiltration of inflammatory cells composed of polymorphonuclear leukocytes, plasma cells and mononuclear cells which surround a central core of coagulative necrosis. Marked cerebral edema surrounds the lesion at this stage.

In the second stage, late cerebritis (days 4-9), the necrotic center has reached its maximal size and is surrounded at its border by an inflammatory infiltrate of macrophages and fibroblasts. The appearance of fibroblasts and the marked increase in new vessel formation around the developing abscess set the stage for capsule formation. A thin capsule of fibroblasts and reticular fibers gradually develops, and the surrounding area of cerebral edema becomes more distinct than in the previous stage.

In the third stage, early capsule formation (days 10-13), the necrotic center begins to decrease in size and the inflammatory infiltrate changes in character, containing an increasing number of fibroblasts and macrophages. Mature collagen evolves from reticulin precursors, forming a capsule that is better developed on the cortical than on the ventricular side of the lesion.

The final stage, the stage of late capsule formation (day 14 on), is characterized by a well-formed necrotic center with a peripheral zone of inflammatory cells and a dense collagenous capsule. The surrounding area of cerebral edema has regressed, but marked gliosis with large numbers of reactive astrocytes has developed outside the capsule.^{2,4,8,10}

This sequence of events is altered in the immunocompromised host and may be slightly affected by the predisposing condition leading to infection. En-

TABLE 2 Microbiologic Etiology of Brain Abscess*	
Organism	Isolation Frequency (%)
<i>Staphylococcus aureus</i>	10-15
<i>Enterobacteriaceae</i>	23-33
<i>Streptococcus pneumoniae</i>	<1
<i>Hemophilus influenzae</i>	<1
Streptococci (<i>Streptococcus milleri</i> , <i>Streptococcus anginosus</i>)	60-70
<i>Bacteroides</i> species	20-40
Fungi	10-15
Protozoa, helminths	<1

*Reprinted with permission from ref. 1

capsulation is more extensive in abscesses that arise from a contiguous site of infection compared to abscesses that result from hematogenous spread of infection. It is suggested that the hypoxic infarction resulting from a septic embolus might impede optimal collagen formation.^{1,9,11} An additional important observation is the quantitative difference in the formation of the capsule between the cortical and ventricular sides of the abscess, with more complete capsule formation on the cortical than on the ventricular side, resulting in a tendency for spread of infection to the ventricle rather than to the subarachnoid space.

Microbiology

The organisms most commonly isolated from brain abscesses (Table 2) are streptococci, staphylococci, *Bacteroides* and members of the *Enterobacteriaceae* (*Proteus* sp., *Escherichia coli*, and *Pseudomonas* sp.). The clinical setting and the location of the abscess within the brain predict the etiological agent. Various streptococci (aerobic, microaerophilic, anaerobic) are the causative organisms in 60-70% of cases. A frontal lobe abscess that develops in association with sinusitis usually is caused by streptococci.¹ *Bacteroides* sp. and the *Enterobacteriaceae* usually are isolated in brain abscesses of mixed culture, and are in-

fecting organisms in 20-40% and 23-33% of cases, respectively.^{1,12,16} Both are common infecting agents in mixed culture abscesses that develop from frontoethmoidal and sphenoidal sinusitis and otitis media. *S. aureus* causes 10-15% of brain abscesses, usually in pure culture, and is the most common pathogen in abscesses that result from cranial trauma, either penetrating wounds of the brain or neurosurgical procedures.^{1,2} Except in the neonate, brain abscess formation is a rare complication of pyogenic meningitis. In the neonate, brain abscess formation has been reported in association with more than 70% of cases of *Citrobacter diversus* meningitis. Other bacteria occasionally isolated from brain abscess pus include *Clostridium*, *Fusobacterium*, *Actinomyces*, and *Listeria monocytogenes*.^{1,17}

A much smaller percentage of brain abscesses are caused by fungi. Fungal intracerebral abscesses occur primarily in diabetics, immunocompromised patients and parenteral drug abusers. The most common fungal infection of the CNS is *Cryptococcus neoformans*; however, most infections with this fungus are subacute and present with symptoms of meningitis.¹⁸

Aspergillus sp., *Candida* sp., and *Blastomyces dermatitidis* infections are more likely to present as intracerebral mass lesions. *Candida* brain abscesses

usually are seen in the setting of disseminated disease. *Aspergillus* brain abscesses are almost always associated with invasive pulmonary disease.¹

Although helminths rarely are the causative agents of brain abscess in patients in the midwestern part of the country, brain abscess due to *Taenia*

solium (neurocysticercosis) is occasionally seen in patients who ingest undercooked pork.

The presence of multiple deep cere-

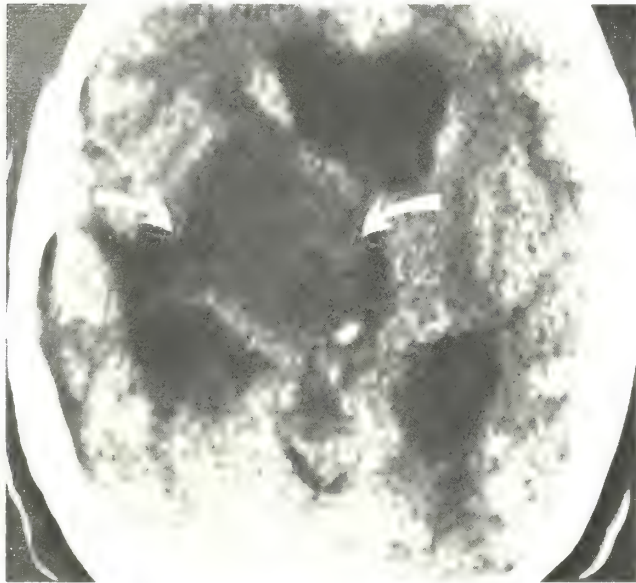


FIGURE 1A

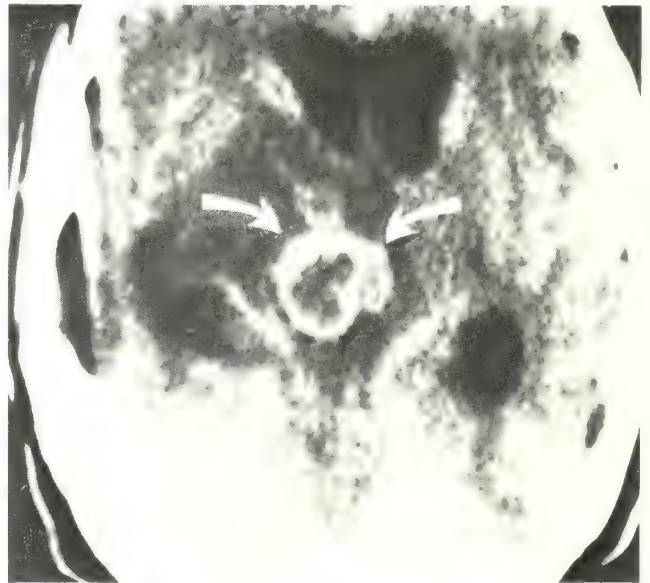


FIGURE 1B

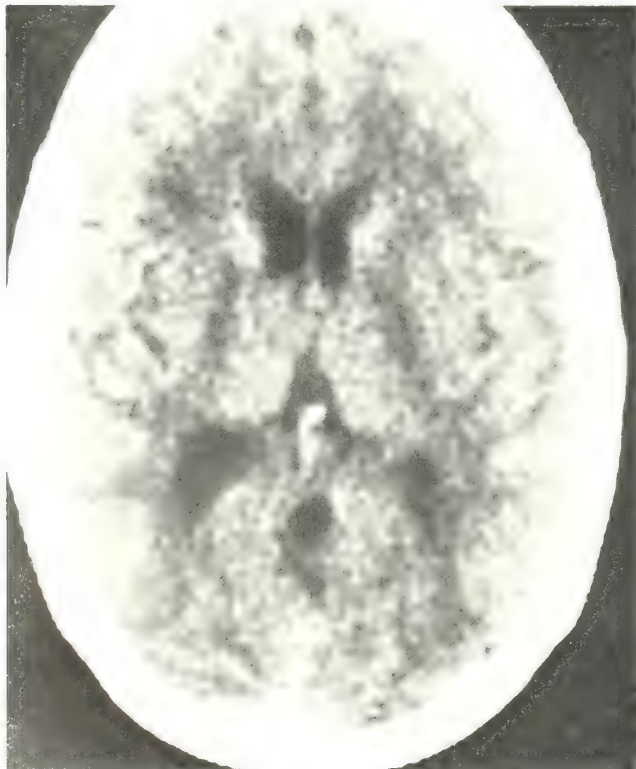


FIGURE 1C

FIGURE 1A: Axial non-contrast CT. Low ventricular level. Focal low density lesion arising from the right thalamus (arrow).

FIGURE 1B: Corresponding contrast study reveals enhancing lesion with surrounding edema (arrows). These findings are consistent with abscess.

FIGURE 1C: Axial CT. Low ventricular level six months later demonstrates complete resolution of abscess.

bral abscesses in patients with the acquired immunodeficiency syndrome (AIDS) is characteristic of infection caused by *Toxoplasma gondii*. Of the 15 reported cases of patients with AIDS and *M. tuberculosis* infection of the CNS, 10 of these patients presented with CNS mass lesions.¹⁸

Signs and Symptoms

In children and adults, the most common symptom of brain abscess is headache, either hemicranial or generalized, and occurs in over 75% of patients.^{8,19} More than half of patients will have complaints of vomiting, or focal neurological deficit, the most common of which is hemiparesis. Brain abscess presents as an expanding intracranial mass lesion, rather than as an infectious process; as such, fever is present in only 45-50% of patients and usually is not striking.¹ One-third of patients present with new onset focal or generalized seizure activity.^{8,20} Frontal lobe abscesses are more prone to produce seizures than those in other locations.⁸

The findings on neurological examination are related both to the site of the abscess and to the presence of raised intracranial pressure (ICP). In cases of frontal or parietal lobe abscess, hemiparesis is the most common localizing sign. Patients with temporal lobe abscess may have language disturbance or an upper homonymous quadrantanopsia. Cerebellar abscess is manifest by nystagmus and ataxia. Patients with expanding mass lesions and increased ICP will have alterations in consciousness ranging from lethargy to irritability, confusion or coma. There may be papilledema, and deficits of cranial nerves III and VI, if raised ICP is present. Patients with brain abscess may present with signs of meningitis if the abscess ruptures into the ventricle, or if the infection spreads to the subarachnoid space.

Infants with brain abscess will present with seizures, irritability, failure to thrive or an enlarged head.⁷

Diagnosis

Patients with brain abscess may have a leukocytosis or an elevated erythrocyte sedimentation rate; however, in a significant proportion of patients, laboratory criteria for infection will be lacking.^{8,21}

When a brain abscess is suspect, examination of the cerebrospinal fluid (CSF) should be avoided because of the danger of herniation of the brainstem, and because the diagnostic yield is low. In one series, lumbar puncture was performed in 140 patients with brain abscess. In 41 patients, there was significant deterioration in the level of consciousness in the subsequent 48 hours, with 25 patients dying.²² In another series, four of 27 patients with brain abscess who underwent lumbar puncture died within 24 hours after the procedure.²³ Although it is regarded as safe by some to perform lumbar puncture if only a small amount of CSF is removed, the inadvertent creation of a hole in the theca after the needle is withdrawn may allow for slow seepage of CSF, resulting in clinical deterioration several hours after the procedure. Therefore, lumbar puncture should not be performed in patients suspected of having a brain abscess.

Unless there has been extension of the abscess to the meninges or ventricles, bacteria can be detected by Gram stain or culture of CSF obtained by lumbar puncture in less than 10% of patients.²³⁻²⁴ The presence of an elevated cell count in the CSF is directly related to the stage of encapsulation of the abscess and its proximity to the meningeal or ventricular surfaces, and thus may range from a few to several hundred cells.²⁵ The protein content is moderately elevated, up to a few hundred milligrams per 100 ml, in patients with unruptured abscesses.⁸ The CSF glucose should be normal. The finding of hypoglycorrhachia indicates that the meninges have been breached by bacteria.²⁵

Computed tomography (CT) is the diagnostic procedure of choice to iden-

tify acutely ill patients with brain abscess. The appearance of a brain abscess on CT is characteristic (*Fig. 1A-1C*). Typically, the abscess is a low-density lesion with a sharply demarcated, dense ring of contrast enhancement surrounded by a variable hypodense region of edema. In both the cerebritis stage and the stage of actual capsule formation, there is a marginal ring of density on contrast enhanced images; however, in the cerebritis stage the enhancing ring forms an inhomogeneous "halo." As the abscess matures, its margin becomes more discrete and the associated enhancement more homogeneous. In addition, there is often diffusion of contrast medium into the low-density center of an abscess in the cerebritis stage. The CT scan is also particularly well suited for the evaluation of the paranasal sinuses, mastoids and middle ear, common sites of initial infection.^{1,9,26}

The efficacy of magnetic resonance imaging (MRI) in the detection of brain abscess has been studied experimentally in canine and monkey brain abscess models. The results of these studies suggest that MRI may be superior to CT in detecting lesions early in the cerebritis stage. The use of a paramagnetic contrast agent, gadolinium-DTPA (Gd-DTPA) in T1-weighted images, may add specificity in characterizing brain abscess on MRI.²⁷⁻²⁸ At present, primarily because of its availability, the CT scan is the procedure of choice, although an abscess also can be readily demonstrated by MRI (*Fig. 2A-2C*).

Treatment

Medical therapy:

Systemic antibiotic therapy alone often is successful in eradicating brain abscess by CT scan in the cerebritis stage and lesions less than 3 cm in diameter.²⁹ Haley, *et al.*, using a combination of penicillin and chloramphenicol early in the cerebritis stage, were able to sterilize experimental *S. aureus* brain abscess in rats.³⁰ Rosenblum, *et*

*al.*²⁹ and Heineman, *et al.*³¹ reported patients with brain abscesses who were cured with medical therapy alone. In

their patients, antibiotics were initiated early and the brain abscesses were small. If the CT scan suggests the

lesion is in the cerebritis stage and less than 3 cm in diameter, and the patient is neurologically stable, high dose anti-

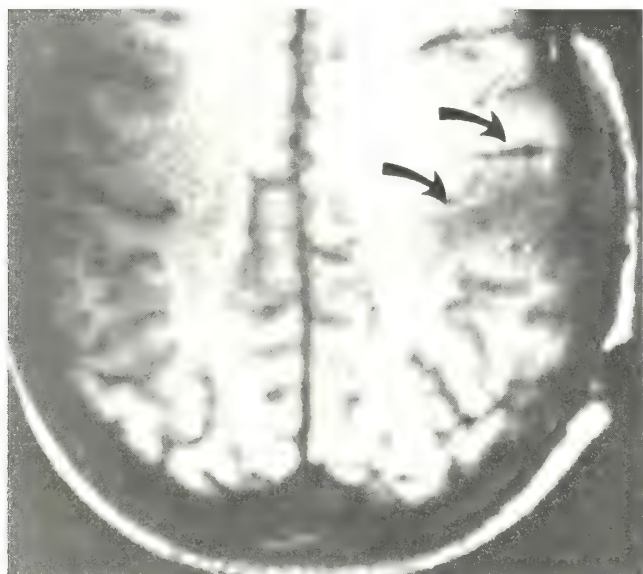


FIGURE 2A

FIGURE 2A: Axial MRI. T₁-weighted scan through parietal convexity. Focal area of decreased signal peripherally (arrows).

FIGURE 2B: Axial MRI. T₂-weighted scan (parietal convexity) demonstrates a hyperintense lesion (arrows).

FIGURE 2C: Axial MRI. T₂-weighted scan (mid ventricular level). Lesion extends to periventricular region (left).



FIGURE 2B

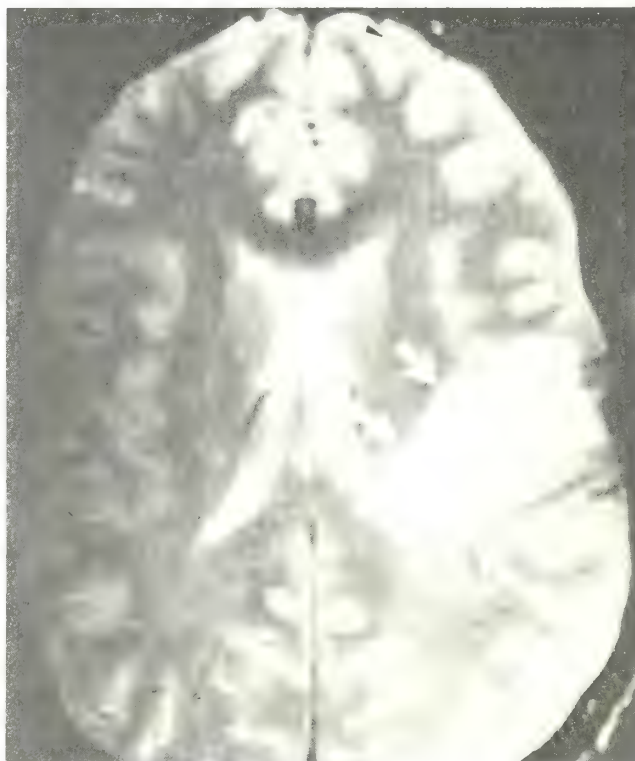


FIGURE 2C

biotic therapy can be initiated and the patient observed.

The choice of an antibiotic to treat a brain abscess must not only be made based on the susceptibility of the organism, but also must include consideration of the antibiotic's ability to penetrate the blood-brain barrier, and to penetrate and be effective in brain abscess pus. An antibiotic's ability to penetrate the blood-brain barrier is dependent upon several factors, including: 1) degree of lipid solubility, 2) degree of ionization, 3) pH-gradient between plasma and CSF, 4) protein binding, and 5) molecular size and structure of the antibiotic. More important than the pharmacokinetics of an antibiotic in enabling it to penetrate the CSF-blood barrier is the presence of inflammation in the meninges. A moderate degree of meningeal inflammation results in a marked increase in the capacity of many antibiotics to cross the blood-CSF barrier.^{2,32-33}

The penetration of antibiotics into brain tissue, in particular into brain abscess, is less well understood than the penetration of antibiotics into CSF. To some degree, the same factors that limit the penetration of antibiotics into CSF limit the penetration of antibiotics into brain tissue. In addition, the permeability of antibiotics into brain tissue is enhanced by the local inflammation and the alteration in the blood-brain barrier that occurs in areas of cerebritis. Finally, despite the presence in the abscess cavity of therapeutic concentrations of antibiotics, organisms persist in the purulent core. This persistence of viable organisms in abscess pus despite the presence of therapeutic concentrations of antibiotics has been attributed to inactivation of antibiotics by bacterial or leukocytic enzymes accumulating in the abscess pus. For this reason, antibiotic therapy alone is usually not successful once an abscess has developed a purulent core.²³

For empiric therapy of brain abscess, a combination of penicillin G (20-24 million units daily) plus

chloramphenicol (1.0-1.5 g intravenously q6h) is recommended. A third-generation cephalosporin (cefotaxime or moxalactam) should be added to this regimen if *Enterobacteriaceae* are suspected. Penicillin has excellent activity against streptococci and most anaerobes, with the notable exception of *Bacteroides fragilis*. Chloramphenicol penetrates well into brain tissue and has excellent activity against anaerobic bacteria. Metronidazole obtains high concentrations in brain abscess pus and is bactericidal against strict anaerobic bacteria, including *B. fragilis*, but its CNS side effects have limited its use.¹

When staphylococci are suspected or grown, nafcillin (2g q4h) is recommended. Vancomycin is recommended for patients who are allergic to penicillin or in whom a methicillin-resistant strain of staphylococci has been isolated. Fusidic acid penetrates brain abscess cavities well and is not readily inactivated by brain abscess pus. There are several reports in the European literature of successful therapy of *S. aureus* brain abscess with fusidic acid, but experience in this country has been very limited.

Surgical therapy:

An abscess beyond the cerebritis stage should be managed by aspiration or excision. The advantages of aspiration are: 1) it decreases the size of the intracranial mass, and in this way decreases ICP, and 2) by removal of the purulent material in the core of the abscess, may decrease the likelihood of inactivation of antibiotics by bacterial or leukocytic enzymes in the pus. The risks of aspiration are that it may allow the abscess to rupture into the ventricle or leak out into the subarachnoid space.³⁴ Aspiration may provide only temporary benefit. Persistent bacteria in the core of the abscess will generate an ongoing inflammatory response, and aspiration may be ineffective in reducing ICP.^{4,34}

Excision is the definitive procedure and should be undertaken when antibiotics and aspiration cannot control the infection, and when there are le-

sions that are greater than 4 cm in size on CT scan.⁹ Excision is contraindicated in the early stages of the abscess, before a capsule has formed, and where an abscess is deep in the brain or in vital structures. A major complication of excision is the likelihood of a permanent neurological deficit. With the use of the CT scan and ICP monitoring devices, an increasing number of patients have been successfully managed with systemic antibiotic therapy and aspiration of the abscess alone.^{8,35-36} Because of the risk of a permanent neurological deficit with excision, the surgical method preferred for children and infants is drainage or repeated aspiration.^{20,37}

The use of steroids in the management of brain abscess is controversial. A major threat to the patient's life in the presence of a brain abscess is the effect of the expanding mass leading to increased ICP and herniation of the brainstem. Steroids decrease endothelial permeability of the vessels associated with the inflammatory response around the abscess, and subsequently decrease cerebral edema.⁴ However, this effect on the permeability of the vessels may result in decreased diffusion of antibiotics into the abscess.^{4,23} Steroids also have been shown to cause a reduction of polymorphonuclear leukocytes at the infected focus with delayed clearance of bacteria. There is no evidence that steroids either delay or augment encapsulation of an abscess.³⁸ When increased ICP is a concern, a short course of steroids in addition to hyperventilation and mannitol is indicated.³⁹ The proper timing and appropriate dose of steroids in the management of this infection is presently unknown.

Morbidity and Mortality

Since 1975, there has been a significant reduction in mortality from brain abscess reported in all series.^{7,10,20,37} This reduction has been attributed to improvement in culture technique with better identification of the infecting organisms, and to the contribution CT

scanning has made in the diagnosis and management of this infection.^{7,40} Mortality of brain abscess in recent series has ranged from 0 to 24%.

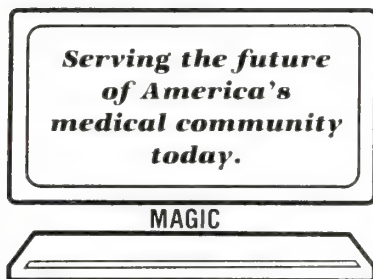
The major morbidity from brain abscess is associated with surgical intervention, and includes permanent neurological deficit and postoperative epilepsy. The incidence of neurologic sequelae, including minor and incapacitating deficits, is reported to be between 30 and 55%.^{23,41} The incidence of postoperative seizure disorder ranges from 30-50% in reported series, the onset of which may be delayed from six to 12 months following surgery.^{19,42,43}

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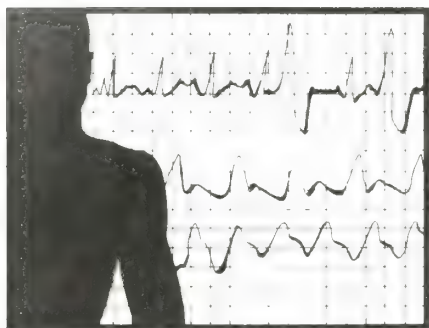
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The Hyperglycemic Hyperosmolar Syndrome



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THE HYPERGLYCEMIC hyperosmolar syndrome is a severe complication of uncontrolled diabetes mellitus characterized by marked hyperglycemia, plasma hyperosmolarity, profound dehydration and the absence of severe ketoacidosis.¹ It is often referred to as hyperosmolar nonketotic diabetic coma. This entity was first described in an abstract by Dreschfeld in 1886.² It has been well described in the literature over the past 30 years. We feel the term hyperglycemic hyperosmolar syndrome (HHS) better characterizes the clinical aspects of this disorder. Mild acidosis with ketosis may be present and frank coma is present in only about 30% of cases.³ It is clear that HHS can coexist with diabetic ketoacidosis (DKA) to create a mixed metabolic abnormality. A review of the pathophysiology of HHS will be helpful in understanding events leading to its presentation.

Pathophysiology

The mechanisms allowing relative insulin deficiency, severe hyperglycemia and elevations of free fatty acid levels, well above basal levels without the development of significant ketosis, are poorly understood.

Both diabetic ketoacidosis and hyperglycemic hyperosmolar syndrome occur in the setting of relative insulin deficiency and elevated levels of counter-regulatory hormones (gluca-

gon, catecholamines and cortisol). This metabolic milieu allows for decreased peripheral utilization of glucose and increased hepatic glucose production. The resulting hyperglycemia is responsible for an osmotic diuresis leading to severe dehydration. Dehydration eventually diminishes glomerular filtration and reduces renal glucose disposal, further compounding the hyperosmolar state. Stress associated with dehydration leads to further increases in counter regulatory hormone levels which, in turn, are responsible for progressive insulin resistance.

In diabetic ketoacidosis, insulin deficiency allows for marked increases in peripheral liberation of free fatty acids. Insulin-lack or insensitivity at the hepatic level favors utilization of free fatty acids along oxidative pathways leading toward ketogenesis and consequent ketoacidosis.⁴

It is not clear why hepatic ketogenesis is not a significant component of HHS. Distinct biochemical differences between ketotic and nonketotic hyperosmolar syndromes have been reported.^{4,5,6} Free fatty acids, although elevated in both syndromes, are uniformly lower in nonketotic hyperosmolar states. Cortisol and growth hormone levels generally are lower in HHS than in diabetic ketoacidosis. Glucagon levels exceed those seen in diabetic ketoacidosis, and peripheral immunoreactive insulin levels are similar in ketotic and nonketotic hyperosmolar states. Data published by Gerich, *et al.* in an experimental rat model would suggest that lypolysis and ketogenesis are limited by dehydration and hyperosmolarity.⁶ Diminished ketogenesis as a result of dehydration and hyperosmolarity also has been observed in man using a euglycemic insulin clamp technique; however, consistent restrained lypolysis could not be demonstrated.⁵

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In another rat model, Joffe, *et al.* demonstrated that mean portal immunoreactive insulin levels were significantly higher in HHS than in ketoacidosis, while peripheral immunoreactive insulin levels in the two syndromes were similar.⁹ The extent to which dehydration, hyperosmolarity altered counter regulatory hormone levels and variant hepatic-peripheral immunoreactive insulin levels interact to allow HHS to occur is not clear.

Further studies of hepatic ketogenic pathways, membrane hormone receptors and post-receptor cellular events during altered metabolic states may shed new light on the development of the hyperglycemic hyperosmolar syndromes.

Clinical Manifestations

The typical patient is elderly, but all ages including infants are represented. There is often a history of prior illness for a few days to a few weeks. Symptoms of weakness, polyuria and increasing obtundation are prominent. Inability to increase oral fluid intake or impaired thirst sensation lead to profound dehydration. A preceding diagnosis of diabetes may only be present in one-half of patients with HHS, often mild noninsulin dependent on an oral hypoglycemic agent. The remainder are newly diagnosed patients presenting with HHS.

There are numerous precipitating factors that may be involved in the development of this syndrome. Some of them are listed in the *Table*. It is important to consider these possible causes early in the diagnosis and treatment of HHS. These contributing factors or agents can then be eliminated and hasten the resolution of the metabolic abnormalities. For example, an underlying pneumonia may not be evident on initial chest radiograph, but will manifest after the patient is adequately hydrated.

Some alteration in mental status is quite common in HHS. The depth of stupor correlates well with the degree of hyperosmolarity.¹⁰ Osmolarity can be

TABLE
HHS—Precipitating Factors

Infection (pneumonia, sepsis, UTI)
Myocardial infarction
Cerebrovascular accidents
Acute pancreatitis
Hypothermia
Heat stroke
Total parenteral nutrition & enteral feedings
Hyperosmolar dialysis (hemodialysis, peritoneal dialysis)
Severe burns
Thyrotoxicosis
Glucocorticoids
Phenytoin
Thiazide diuretics
Diazoxide
Propranolol
Cimetidine
Furosemide
Ingestion of large amounts of sugar-containing beverages
Idiopathic

directly measured by freezing point depression or estimated by using the following formula:

$$\text{mOsm/L} = (\text{Na}^+ + \text{K}^+) + \frac{\text{blood glucose} + \text{BUN}}{18 \quad 2.8}$$

Normal plasma osmolarity ranges from 285-300 mOsm/L. Coma may occur when osmolarity exceeds 340 mOsm/L. Other neurologic abnormalities include focal or generalized seizures which are resistant to anticonvulsant medications. Phenytoin particularly should be avoided since it may inhibit insulin secretion and worsen metabolic abnormalities. West, *et al.* describes a patient with HHS treated with Phenytoin for seizures who subsequently developed "delayed ketoacidosis."¹¹ A cerebrovascular accident is often misdiagnosed in HHS due to transient hemiparesis, extensor toe reflex, aphasia and hemisensory defects.¹⁰ A peculiar type of tonic focal seizure with assumption of a fencing-like posture has been described in three cases of HHS by Venna and Sabin.¹²

Other clinical features include nausea, vomiting and abdominal pain secondary to gastric stasis and ileus occurring in 50% of patients. Hematemesis also can occur. Hypothermia or normothermia is the rule in HHS even in the presence of an infectious process.

Laboratory studies reveal blood glucose is often over 800 mgs%, with a record value of 4,800 mgs% described by Knowles.¹⁰ Leukocytosis and increased hematocrit are common, the latter due to dehydration. Blood urea nitrogen and creatinine are invariably elevated while the serum sodium level can be low, normal or elevated. Fictitious hyponatremia often occurs due to the hyperglycemia or hyperlipidemia. Each 100 mgs% elevation of blood glucose above normal (100 mgs%) will decrease serum sodium by 1.6 mEq/L.¹⁰ Therefore, a "corrected" serum sodium should be determined to guide further electrolyte therapy.

Treatment

An intensive care environment is preferred for treating a majority of patients with HHS due to complex metabolic problems, concomitant serious precipitating factors and close monitoring capabilities. Nasogastric suction is recommended to avoid possible aspiration of gastric contents. Vigorous fluid administration is mandatory to begin replenishing the contracted intravascular space. Hypotension or shock is best treated initially with colloid followed by high volumes of crystalloid. There is some controversy over the use of normal saline or half normal saline initially.^{1,3} The Joslin group prefers the former while other groups prefer the latter.^{4,13} The total body water deficit averages eight to 12 liters. Two liters should be infused over the first two hours followed by four to six liters over the next 24 hours. Central venous or pulmonary artery pressure monitoring should be initiated early if hypotension is not quickly corrected or concerns of fluid overload are raised. When encountered with persistent hyperna-

tremia and hyperglycemia, Worthley has successfully infused sterile water through a central venous catheter without inducing hemolysis.¹⁴

Potassium (K⁺) supplementation should begin when serum potassium falls below 5 mEq/L. Total body deficits are 400-1,000 mEq in HHS.¹ Frequent serum potassium measurement and continuous electrocardiographic monitoring will help guide replacement therapy. Use of the phosphate or acetate salt in addition to potassium chloride will help prevent hyperchloremia. However, no more than 80-120 mM phosphate should be given over the first 24 hours to avoid precipitating hypocalcemic tetany.¹³

Low dose constant insulin infusion is now considered the preferable means of insulin administration.¹⁵ Human Regular insulin should be administered in a loading dose of 0.1-0.2 U/kg followed by an infusion of 0.1 U/kg/hr. Average fall in blood glucose is 100 mgs% per hour although the initial fall may be more rapid. This has contributed to the misconception that HHS patients are unusually sensitive to insulin. A recent study has actually demonstrated marked insulin resistance in these patients.¹⁶ If there is no response or worsening hyperglycemia after two hours, the drip rate should be doubled sequentially until there is a favorable response. The Toronto group, however, feels acute insulin treatment is necessary only for acidemia, hyperkalemia or severe hyperglycemia in the presence of a persistently low glomerular filtration rate (GFR).¹¹

Certainly, insulin is no substitute for I.V. fluid administration. In fact, insulin used alone will tend to further deplete intravascular volume as free water follows blood glucose intracellularly.³ The result is hypotension and shock in this situation. This brings up the important differential diagnosis between HHS and uncontrolled diabetes and renal failure.¹ Both groups present with extreme hyperglycemia and elevated BUN and creatinine. The latter, how-

ever, will have anemia, hyponatremia and fluid overload. Treatment here is with small to moderate doses of Regular insulin subcutaneously without large volumes of I.V. fluid.

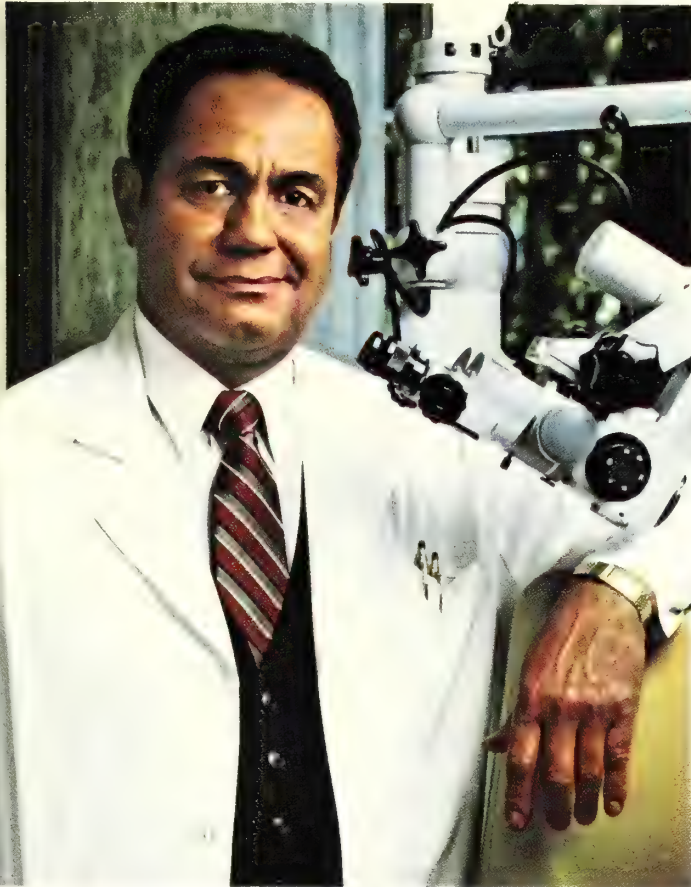
Complications

Arterial thrombosis and DIC are reported to occur in HHS, but seem unrelated to treatment.¹⁰ Anticoagulation is a controversial area and prospective studies of its efficacy are lacking. There are legitimate concerns about increasing the severity of gastrointestinal bleeding.¹³ Cerebral edema continues to be poorly understood, but seems to be related to correcting hyperglycemia too rapidly, particularly when blood glucose falls below 250 mgs%.¹⁰ It is more commonly associated with diabetic ketoacidosis in younger patients. Some groups advocate the use of intracranial pressure monitoring in high risk children with HHS.¹⁷

Mortality in HHS has dropped from around 40% twenty years ago to 10% in this decade. Most deaths occur in age groups over 50 years old from sepsis, adult respiratory distress syndrome, cardiovascular or metabolic causes.¹³ As is usually the case, the most effective way to reduce morbidity and mortality in HHS is prevention. Improved education of patient and family members to the symptoms of uncontrolled diabetes would prompt earlier treatment and improved outcome.

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Carcinogenesis, Mutagenesis, Impairment of Fertility—A two-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect. There was a dose-related increase in the density of enterochromaffin-like (ECL) cells in the gastric oxyntic mucosa. In a two-year study in mice, there was no evidence of a carcinogenic effect in male mice although hyperplastic nodules of the liver were increased in the high dose males compared to placebo. Female mice given the high dose of Axid (2,000 mg/kg/day about 330 times the human dose) showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no numerical increase seen in any of the other dose groups. The rate of hepatic carcinoma in the high dose animals was within the historical control limits seen for the strain of mice used. The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrement

compared to concurrent controls, and evidence of mild liver injury (transaminase elevations). The occurrence of a marginal finding at high dose only in animals given an excessive, and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 360 mg/kg/day, about 60 times the human dose), and a negative mutagenicity battery is not considered evidence of a carcinogenic potential for Axid.

Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, and the mouse lymphoma assay.

In a two-generation, perinatal and postnatal, fertility study in rats, doses of nizatidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny.

Pregnancy—Teratogenic Effects—Pregnancy Category C—Oral reproduction studies in rats at doses up to 300 times the human dose, and in Dutch Belled rabbits at doses up to 55 times the human dose, revealed no evidence of impaired fertility or teratogenic effect, but, at a dose equivalent to 300 times the human dose, treated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights. On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac enlargement, coarctation of the aortic arch, and cutaneous edema in one fetus and at 50 mg/kg it produced ventricular anomaly, distended abdomen, spina bifida, hydrocephaly, and enlarged heart in one fetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Nizatidine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers—Nizatidine is secreted and concentrated in the milk of lactating rats. Pups reared by treated lactating rats had depressed growth rates. Although no studies have been conducted in lactating women, nizatidine is assumed to be secreted in human milk, and caution should be exercised when nizatidine is administered to nursing mothers.

Pediatric Use—Safety and effectiveness in children have not been established.

Use in Elderly Patients—Ulcer healing rates in elderly patients are similar to those in younger age groups. The incidence rates of adverse events and laboratory test abnormalities are also similar to those seen in other age groups. Age alone may not be an important factor in the disposition of nizatidine. Elderly patients may have reduced renal function.

Adverse Reactions. Clinical trials of nizatidine included almost 5,000 patients given nizatidine in studies of varying durations. Domestic placebo-controlled trials included over 1,900 patients given nizatidine and over 1,300 given placebo. Among the more common adverse events in the domestic placebo-controlled trials, sweating (1% vs 0.2%), urticaria (0.5% vs <0.01%), and somnolence (2.4% vs 1.3%) were significantly more common in the nizatidine group. A variety of less common events was also reported, it was not possible to

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determine whether these were caused by nizatidine.

Hepatic—Hepatocellular injury, evidenced by elevated liver enzyme tests (SGOT [AST], SGPT [ALT], or alkaline phosphatase), occurred in some patients possibly or probably related to nizatidine. In some cases, there was marked elevation of SGOT, SGPT enzymes (greater than 500 IU/L), and in a single instance, SGPT was greater than 2,000 IU/L. The overall rate of occurrences of elevated liver enzymes and elevations to three times the upper limit of normal, however, did not significantly differ from the rate of liver enzyme abnormalities in placebo-treated patients. All abnormalities were reversible after discontinuation of Axid.

Cardiovascular—In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in two individuals administered Axid and in three untreated subjects.

Endocrine—Clinical pharmacology studies and controlled clinical trials showed no evidence of antiandrogenic activity due to Axid. Impotence and decreased libido were reported with equal frequency by patients who received Axid and by those given placebo. Rare reports of gynecomastia occurred.

Hematologic—Fatal thrombocytopenia was reported in a patient who was treated with Axid and another H_2 -receptor antagonist. On previous occasions, this patient had experienced thrombocytopenia while taking other drugs.

Integumental—Sweating and urticaria were reported significantly more frequently in nizatidine than in placebo patients. Rash and exfoliative dermatitis were also reported.

Other—Hyperuricemia unassociated with gout or nephrolithiasis was reported.

Overdosage: There is little clinical experience with overdosage of Axid in humans. If overdosage occurs, use of activated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy. Renal dialysis for four to six hours increased plasma clearance by approximately 84%.

Test animals that received large doses of nizatidine have exhibited cholinergic-type effects, including lacrimation, salivation, emesis, miosis, and diarrhea. Single oral doses of 800 mg/kg in dogs and of 1,200 mg/kg in monkeys were not lethal. Intravenous LD₅₀ values in the rat and mouse were 301 mg/kg and 232 mg/kg, respectively. PV 2091 AMP [041288]

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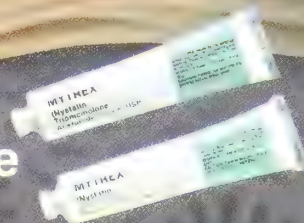
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Please see facing [following] page for brief summary of prescribing information.

Systemic absorption of topical corticosteroids has produced reversible HPA suppression manifestations of Cushing's syndrome, hyperglycemia and glucosuria in some patients. Pediatric patients may demonstrate a greater susceptibility.

Reference: 1. Adams RM, Mallick H, Glendinning WF, et al. A long-term study of cosmetic reactions. *J Am Acad Dermatol* 1985;13(6):1062-1069.



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Brief Summary of Prescribing Information

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CONTRAINDICATIONS: This preparation is contraindicated in those patients with a history of hypersensitivity to any of its components.

PRECAUTIONS: General: Systemic absorption of topical corticosteroids has produced reversible hypothalamic-pituitary-adrenal (HPA) axis suppression, manifestations of Cushing's syndrome, hyperglycemia, and glucosuria in some patients. Conditions which augment systemic absorption include the application of the more potent steroids, use over large surface areas, prolonged use, and the addition of occlusive dressings (see DOSAGE AND ADMINISTRATION). Therefore, patients receiving a large dose of any potent topical steroid applied to a large surface area should be evaluated periodically for evidence of HPA axis suppression by using the urinary free cortisol and ACTH stimulation tests, and for impairment of thermal homeostasis. If HPA axis suppression or elevation of the body temperature occurs, an attempt should be made to withdraw the drug, to reduce the frequency of application, or to substitute a less potent steroid. Recovery of HPA axis function and thermal homeostasis are generally prompt and complete upon discontinuation of the drug. Infrequently, signs and symptoms of steroid withdrawal may occur, requiring supplemental systemic corticosteroids. Children may absorb proportionally larger amounts of topical corticosteroids and thus be more susceptible to systemic toxicity (see PRECAUTIONS, Pediatric Use). If irritation or hypersensitivity develops with the combination nystatin and triamcinolone acetonide, treatment should be discontinued and appropriate therapy instituted.

Information for the Patient: Patients using this medicine should receive the following information and instructions:

1. This medication is to be used as directed by the physician. It is for external use only. Avoid contact with the eyes.
2. Patients should be advised not to use this medication for any disorder other than for which it was prescribed.
3. The treated skin area should not be bandaged or otherwise covered or wrapped as to be occluded (see DOSAGE AND ADMINISTRATION).
4. Patients should report any signs of local adverse reactions.
5. When using this medication in the inguinal area, patients should be advised to apply cream sparingly and to wear loose fitting clothing.
6. Parents of pediatric patients should be advised not to use tight-fitting diapers or plastic pants on a child being treated in the diaper area, as these garments may constitute occlusive dressings.
7. Patients should be advised on preventive measures to avoid reinfection.

Laboratory Tests: If there is a lack of therapeutic response, appropriate microbiological studies (e.g., KOH smears and/or cultures) should be repeated to confirm the diagnosis and rule out other pathogens, before instituting another course of therapy. The following tests may be helpful in evaluating hypothalamic-pituitary-adrenal (HPA) axis suppression due to the corticosteroid: Urinary free cortisol test, ACTH stimulation test.

Carcinogenesis, Mutagenesis, and Impairment of Fertility: Long-term animal studies have not been performed to evaluate the carcinogenic or mutagenic potential or possible impairment of fertility in males or females.

Pregnancy Category C: There are no teratogenic studies with combined nystatin and triamcinolone acetonide. Corticosteroids are generally teratogenic in laboratory animals when administered systemically at relatively low dosage levels. The more potent corticosteroids have been shown to be teratogenic after dermal application in laboratory animals. Therefore, any topical corticosteroid preparation should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus. Topical preparations containing corticosteroids should not be used extensively on pregnant patients, in large amounts, or for prolonged periods of time.

Nursing Mothers: It is not known whether any component of this preparation is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised during use of this preparation by a nursing woman.

Pediatric Use: In clinical studies of a limited number of pediatric patients ranging in age from 2 months through twelve years, Nystatin-Triamcinolone Acetonide Cream cleared or significantly ameliorated the disease state in most patients. Pediatric patients may demonstrate greater susceptibility to topical corticosteroid induced hypothalamic-pituitary-adrenal (HPA) axis suppression and Cushing's syndrome than mature patients because of a larger skin surface area to body weight ratio, HPA axis suppression, Cushing's syndrome, and intracranial hypertension have been reported in children receiving topical corticosteroids. Manifestations of adrenal suppression in children include linear growth retardation, delayed weight gain, low plasma cortisol levels, and absence of response to ACTH stimulation. Manifestations of intracranial hypertension include bulging fontanelles, headaches and bilateral papilledema. Administration of topical corticosteroids to children should be limited to the least amount compatible with an effective therapeutic regimen. Chronic corticosteroid therapy may interfere with the growth and development of children.

ADVERSE REACTIONS: A single case (approximately one percent of patients studied) of acneiform eruption occurred with the use of combined nystatin and triamcinolone acetonide in clinical studies.

Nystatin is virtually nontoxic and nonsensitizing and is well tolerated by all age groups, even during prolonged use. Rarely, irritation may occur.

The following local adverse reactions are reported infrequently with topical corticosteroids. These reactions are listed in an approximate decreasing order of occurrence: burning, itching, irritation, dryness, folliculitis, hypertrichosis, acneiform eruptions, hypopigmentation, perioral dermatitis, allergic contact dermatitis, maceration of the skin, secondary infection, skin atrophy, striae and miliaria.

DOSAGE AND ADMINISTRATION: Cream: Apply MYTREX[®] (Nystatin-Triamcinolone Acetonide) Cream, USP to the affected area twice daily in the morning and the evening by gently and thoroughly massaging the preparation into the skin. Ointment: A thin film of MYTREX[®] is usually applied to the affected area twice daily in the morning and evening. MYTREX[®] should be discontinued if symptoms persist after 25 days of therapy (See PRECAUTIONS, Laboratory Tests). MYTREX[®] should not be used with occlusive dressings.

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Maternal Mortality in Indiana: A Report of Maternal Deaths in 1986

WILLIAM D. RAGAN, M.D.
Indianapolis

THE FOLLOWING is the annual report of the Indiana Maternal Mortality Study Committee. Six maternal deaths occurred in 1986. That year Indiana recorded 79,269 live births. This gives the state a maternal mortality rate of 7.5 deaths per 100,000 births for 1986.

The committee met in open session at Ob-Gyn Grand Rounds at Indiana University Hospital June 3, 1987. The function of the Indiana Maternal Mortality Study Committee was reviewed and updated statistics were presented. Several of the 1986 death summaries were discussed for educational purposes. Maternal mortalities involving air embolism, placenta accreta and heart disease were discussed in detail.

The committee adjourned to the Student Union Building for a closed discussion of the six 1986 deaths. Each case was presented for discussion, establishment of diagnosis, and assignment with regard to preventability and responsibility.

Case #774 was a 27-year-old at 36-37 weeks gestation. Cause of death was air embolism. This patient had refused medical care for religious reasons. *Case #775* was a 23-year-old at term. Cause of death was hemorrhage secondary to placenta accreta. *Case #776* was

a 28-year-old, G4, P3 at 34 weeks gestation. Cause of death was a medical complication of pregnancy—liver failure. *Case #777* was a 28-year-old, G1, PO at 21 weeks gestation. Cause of death was a medical complication of pregnancy—heart disease. *Case #778* was a 28-year-old at 20 weeks gestation. Cause of death was a medical complication of pregnancy—heart disease. *Case #779* was a 20-year-old, G0, P1 at term. Cause of death was a medical complication of pregnancy—ruptured aorta secondary to medial necrosis.

Maternal mortality is still with us. While the numbers are small, the committee feels that it is important to investigate and report these deaths for statistical and educational purposes. Undoubtedly, there are many "near misses." According to our records, many of these deaths are preventable or have preventable factors.

There were no cases of ruptured ectopic pregnancy during 1985 and 1986. Early diagnosis of this condition is now possible with sensitive pregnancy tests and ultrasound. We may well be making inroads into preventing deaths due to this entity.

According to several recent articles on maternal mortality, there appears to be a changing trend with regard to causes of death. The time-honored causes of hemorrhage, infection and toxemia have been replaced by embolism and toxemia. Deaths due to toxemia of pregnancy and pulmonary embolism have remained static during study periods, including our own Indiana experience. In 1985 one case of pulmonary embolism and one case of toxemia were reported. In the 1986 deaths reported in this paper, there was one case of air embolism and four cases of medical complications of

pregnancy. There were no cases of toxemia among the 1986 deaths.

Deaths due to toxemia may represent a low standard of prenatal care and, hopefully, can be improved upon in the future. Deaths due to pulmonary embolism remain an enigma, probably because early recognition and prevention can be difficult. Perhaps prophylaxis to prevent pulmonary embolus should be considered in operative cases.

There is a continuing collaborative effort on the part of the American College of Obstetricians & Gynecologists to summarize maternal deaths by states and districts. The National Institutes of Health have set a goal of no more than five maternal deaths per 100,000 live births by the year 1990. The CDC has been funded to investigate maternal mortality in the United States this coming year. These combined efforts should provide more meaningful statistics to continue to curtail preventable maternal mortality.

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The author is Professor, Ob-Gyn Department, Indiana University School of Medicine, and Chairman, Maternal Mortality Study Committee.

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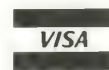
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Microvascular Decompression for Intractable Trigeminal Neuralgia

SCOTT A. SHAPIRO, M.D.¹
STEVE GOODWIN, M.D.²
ROBERT L. CAMPBELL, M.D.³
Indianapolis

TRIGEMINAL NEURALGIA (Tic douloureux) has been clinically well described since 1677.²¹ It is an episodic disorder of paroxysmal lancinating pain in a unilateral trigeminal nerve distribution often triggered by touch, chewing, talking, swallowing, wind or temperature changes.

Between 2% to 10% of patients with trigeminal neuralgia will have periods of pain alternating between both sides (especially multiple sclerosis) but rarely is it bilateral at the same time.

Women are affected more often than men and 70% of patients are over 50 years of age.^{8,21,22} The prevalence of trigeminal neuralgia appears to be increasing as the median age in our population rises.

Medical therapy with carbamazepine (Tegretol®) is the initial treatment of choice and is quite effective.^{2,15,22} Carbamazepine has a number of side ef-

fects including bone marrow suppression, liver toxicity and neurotoxicity which can limit its usefulness.^{4,23} Furthermore, in as many as 75% of patients, carbamazepine loses its effectiveness with time.^{4,22,23}

Dilantin® can also be used but is not nearly as efficacious as carbamazepine. Thus, a large percentage of patients with trigeminal neuralgia will present to a neurosurgeon for operative treatment of their malady.

Through the years of medical history, numerous procedures have been developed to deal with trigeminal neuralgia. Despite its uniform clinical presentation, trigeminal neuralgia has been linked to a variety of pathologic mechanisms.^{3,6,8} Because of different treatments, true trigeminal neuralgia must be differentiated from other types of facial pain such as postherpetic neuralgia, temporomandibular joint pain, cluster headaches, post-traumatic facial neuralgia, and pain due to disease of dental, orbital or sinus origin.

In 1934, Dandy described arteries in direct contact with the trigeminal nerve in 45% of 215 operations on the posterior fossa for trigeminal neuralgia.⁶ An additional 5-8% of the patients had trigeminal nerve compression by a tumor or mass in the cerebellopontine angle.^{5,6}

Dandy postulated that, as people age, arteries and veins elongate and become ectatic and the brain sags more within the skull, which may bring vessels such as the superior cerebellar artery into direct contact with the trigeminal nerve. Furthermore, he postulated that vascular compression of the trigeminal root is a major cause of trigeminal neuralgia.

Jannetta and others have elaborated on this idea and have developed microvascular decompression of the trigeminal nerve as a form of treatment for trigeminal neuralgia.^{8,9,12,13} Dr. Jannetta has performed more than 900 such operations, with 80-90% complete relief of trigeminal neuralgia off all medication postoperatively and only four deaths (two following large tumor removal).^{12,13} This report details our experience treating patients with medically intractable trigeminal neuralgia by microvascular decompression of the trigeminal nerve.

Material and Methods

Patient Population: Between 1978 and 1987, 45 patients with medically intractable trigeminal neuralgia were operated on using a suboccipital craniectomy to perform a microvascular decompression of the trigeminal nerve. The patient population consisted of 24 women and 21 men.

The age of the patients ranged from 33 to 78, with a mean age of 53.3 years. Three patients were older than 70 years. The right side was affected in 27/45 (60%) and the left in 18/45 (40%). Pain distribution was most frequently seen in the V2 distribution 15/45 (33%), followed by V2 and V3 in 12/45 (27%), V1 and V2 in 8/45 (18%), V3 in 7/45 (16%), V1, V2 and V3 in 2/45 (4%), and V1 in 1/45 (2%).

Most patients had a preoperative CT scan of the posterior fossa. None of the patients had an identifiable mass on the scan. Informed consent was obtained for all patients.

Surgical Technique: All operations were carried out with the patient in the prone or semiprone position. The head was secured in a Mayfield 3 point head

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fixation device. The approach was through a suboccipital craniectomy whose diameter was roughly 3 cm lengthwise by 3 cm in width.

The dura was opened longitudinally 1 cm medial to the sigmoid sinus. Using the aid of a Zeiss/Contraves microscope, the cerebellum was gently retracted with small self-retaining brain retractors cushioned by gelfoam. No cerebellar lacerations were encountered. Using precise and gentle microdissection, the trigeminal nerve was exposed and freed of all arachnoid and vascular compression from the brain stem to Meckel's cave.

Ivalon sponge was placed in all cases to cushion and displace vessels away from the trigeminal nerve. Small venules penetrating the nerve were bipolarized and sectioned with microscissors. Following this, the retractors were removed, the dura was closed in a watertight fashion with suture and the muscle, subcutaneous tissue and skin were sutured closed in separate layers in a routine fashion. The patients were extubated and cared for in the neurosurgery intensive care unit. Carbamazepine and/or Dilantin was slowly withdrawn postoperatively.

Results

The population in this study was very similar to other reported studies for all observations. The duration of hospital stay ranged from four to 16 days, with a mean of 7.5 days. Most patients experienced transient nausea, headaches and cerebellar nystagmus secondary to retraction. There was no permanent nystagmus or cerebellar ataxia. There were no permanent cranial nerve palsies or brainstem injuries.

There were no deaths. Complications that occurred include: one case of culture negative aseptic meningitis that resolved without sequelae; one CSF leak from the wound that resolved with a lumbar subarachnoid drain; one decreased corneal reflex without keratitis; one case of occipital neuralgia that resolved with occipital neurectomy;

two cases of atrial fibrillation that converted to sinus rhythm with medication; two cases of transient blurred vision that completely resolved; and one case of decreased hearing that completely resolved. Fourteen of the patients described a mild numbness in the area of former pain distribution, but in none of these patients was the numbness annoying.

The superior cerebellar artery was causing trigeminal nerve compression in 36/45 cases, the anterior inferior cerebellar artery in 4/45 cases, veins in 16/45 cases, a small acoustic neuroma in one case, and an aneurysm of the anterior inferior cerebellar artery in one case. It is obvious that in several cases more than one vessel was found at operation to be in contact with the trigeminal nerve near the root-entry zone at the pons.

All 45 of the patients were completely relieved of their trigeminal neuralgia within two weeks after surgery. 43/45 (96%) of the patients have remained pain free and off all medication after the surgery, with a mean duration of follow-up of 4.3 years (six months shortest to nine years longest). No patient has been lost to follow-up.

Two patients have had recurrence of their symptoms. One patient had a recurrence three months after operation and was reoperated. She did well for three more months and then had another recurrence. She is now pain-free after percutaneous radiofrequency rhizolysis of the gasserian ganglion. The other patient had recurrence of pain nine months after operation and is well controlled on Dilantin.

Discussion

Presently, the surgical treatment of medically intractable trigeminal neuralgia is divided between decompressive procedures as previously described and destructive procedures such as peripheral neurectomy, alcohol or glycerol injections of the peripheral branches of the trigeminal nerve or its ganglion, precise radiofrequency rhizolysis of a selected division or divisions

of the gasserian ganglion, or more recently balloon inflation and compression of the gasserian ganglion.^{5,7,10,16,17,18}

The advantages to the destructive technique are less time in the hospital and they can be done under local anesthesia with theoretically less risk to the patient. Certainly, very old and ill patients who would have a prohibitive risk with major surgery can better tolerate the destructive procedures. Disadvantages for the destructive techniques include slightly lower success rates and statistically significant shorter duration of pain relief following successful procedures, with a 20% to 30% recurrence rate.

The risk of corneal anesthesia and resultant keratitis is higher with destructive techniques. Anesthesia dolorosa, a dreaded and untreatable complication, is much more common with destructive techniques. Furthermore, serious complications such as carotid artery injuries, stroke, intracerebral hemorrhages and death do occur with some of the destructive techniques.

Our results, though not as large as some series, are equal to if not better than those previously reported. We feel that microvascular decompression is an ideal approach to treating medically intractable trigeminal neuralgia in an otherwise healthy patient.

Age in itself is not a contraindication to the operation. Rarely is microvascular decompression not successful, and this small group of patients should then be considered for additional decompressive or destructive procedures. Numerous centers around the world agree with this thinking.^{9,13,19,20}

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BENJAMIN TEPLITSKY, R. PH.
Brooklyn, N.Y.

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Intraoperative Radiation Therapy in Head and Neck Cancer

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ADVANCED OR recurrent disease is a major problem in patients with head and neck malignancy. Advanced cancer disrupts tissue planes, and nodal disease extends beyond the capsule to become fixed to underlying tissue. This makes control of recurrent disease difficult with surgery alone.¹ Chemotherapy has been shown to shrink bulky disease, but has had little effect on the long-term prognosis for most patients.²

Radiation therapy is an effective treatment for head and neck cancer.³ As tumor bulk increases, control with radiation decreases. Increasing doses of radiation may result in superior local control, but at a cost of increasing normal tissue damage.

To increase local control, we have used IORT in head and neck cancer for

Abstract

Between May 1982 and December 1986, 67 patients were treated with Intraoperative Radiation Therapy (IORT) for advanced head and neck cancer. Thirty-five patients had failed previous radiation therapy and 32 received IORT as part of their primary treatment for advanced disease. Two-thirds of the cases were treated for squamous cell carcinoma and the majority of the remaining cases had salivary gland

tumors. The most common treatment was for fixed neck node disease. Tumor control was good, if all gross disease was resected. The overall failure in this group was less than 25%. If there was gross disease persisting at the time of IORT, the control was poor with 83% of these patients showing recurrence of disease. Thus, IORT is effective for advanced and recurrent head and neck cancer when all gross tumor has been resected.

advanced or recurrent disease. A single dose of 1,500 to 2,000 rads produces a several log cell kill.⁴ By giving the treatment at the time of surgery, the tumor is easily visualized and normal tissues can be moved from the treatment field. Thus, the morbidity for the radiation can be decreased. This report is our experience since 1982 with IORT for head and neck cancer.

Materials and Methods

Between May 1982 and December 1986, we treated 67 patients with advanced head and neck cancer with IORT. The ages ranged from 15 to 82 years [of the median of 58 years.] There were 21 female and 46 male patients.

There were four indications for the use of IORT. The first was gross residual disease in 12 patients. These patients had the bulk of their disease resected, but there was gross visible disease persisting in the surgical field. The second indication was microscopic residual disease in 19 patients. These patients had positive surgical margins histologically. The third group was that of close surgical margins. There were 23 patients in whom an acceptable margin of normal tissue could not be

obtained around the tumor. This most often occurred in the region of the carotid artery. The final group was standard surgical margins for 13 patients. These were patients who had disease in the region of the parotid. Normally, a nerve-sacrificing operation would have been performed, but nerve was left in place and IORT used.

The most common pathologic subtype of tumor was squamous cell carcinoma (44 patients). There were 10 adenocarcinomas, four mucoepidermoid and three malignant mixed tumors. There were one each of the following tumors: adenoid cystic carcinoma, malignant melanoma, osteogenic sarcoma, oncocytic carcinoma, chondrosarcoma and basal cell carcinoma. Thirty-five patients had received previous external beam radiation therapy with a dose range of 4,500 to 8,200 rads, and 27 patients received postoperative radiation after their IORT with a dose range of 4,000 to 6,000 rads. Five patients received no additional radiation to the IORT.

The neck was the most common site treated [24 sites]. All these patients had advanced neck disease (N3). *Table 1* summarizes the site of treatment.

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All patients were transported from the surgical suite to the radiation therapy department for their treatment. This involved movement of the patients through two long hallways and down four floors by elevator. All treatments were given using a linear accelerator with electron beam therapy. The dose ranged from 1,000 to 10,000 rads, with most patients receiving between 1,500 to 2,000 rads.

We designed transparent circular lucite cones to facilitate treatments. The surface of the cone abutted the surface of the treatment field. Subcutaneous tissue and skin edges were retracted out of the field. Other critical structures such as the esophagus or carotid artery were blocked individually with lead shielding. The depth of treatment could be tailored individually by using different electron energies.

Results

Patients were transported from the surgical suite to the radiation therapy department without problems. We saw no evidence for infection as a result of the transport of these patients.

The results of treatment were analyzed in terms of local control by disease group. The overall recurrence in the treatment volume was 19 patients of a total of 67, or a 28% recurrence rate. Table 2 summarizes recurrence for the different treatment groups.

Of the 13 patients treated with a standard surgical margin, there were no failures. The failure rate for close surgical margins was six of 23, or 26%, and for microscopic disease three of 19, or 16%.

Those with gross disease had a much higher failure rate with 10 of 12 recurring, or 83%. This failure of gross disease was statistically significant when compared to the other groups ($P < .01$). The overall survival for all patients treated was 63% at one year.

We noted two significant complications from IORT. The first was carotid blowout, which occurred in four patients. These patients had gross

TABLE 1
Sites Treated with IORT

Sites Treated	No.
1) Fixed nodal disease	24
2) Parotid	10
3) Base of skull	9
4) Pterygoids	7
5) Mandible	4
6) Temporal bone	3
7) Floor of mouth	3
8) Submandibular gland	2
9) Tongue	2
10) Other areas	3
	67

disease invading the carotid and when the disease regressed after IORT the vessel became eroded and resulted in this complication. The second complication was mandibular necrosis, which also occurred in four patients. These patients received much larger doses of IORT. Three received 5,000 rads as a single fraction and one received 10,000 rads as a single fraction. This treatment was given to try to prevent recurrence with disease invading the mandible.

Discussion

Patients with recurrent or advanced head and neck cancer have an extreme-

ly poor prognosis and may have a painful and distressing demise. We have added IORT to the treatment armamentarium and this has resulted in excellent local control with those patients with microscopic residual disease, or close or standard surgical margins by our definitions. Failure rate in these groups was uncommon, with over 75% control. Patients with gross residual disease remain a clinical problem. The survival rate is quite poor and IORT did not help to control this disease.

The two complications we saw were carotid blowout and mandibular necrosis. These complications occurred in the early part of our study period. We now will not treat gross disease invading the carotid with IORT and also routinely use a myocutaneous graft over the surgical defect. As a result we have not seen further cases of carotid blowout. The mandible does not tolerate high doses of IORT in the range of 5,000 to 10,000 rads. We have seen problems in all the patients treated at this dose range and in view of this now treat the mandible in the dose range of 1,500 to 2,000 rads.

We feel that intraoperative radiation therapy has a definite role in the management of advanced disease. We have been able to use this treatment despite previous radiation therapy for patients with recurrent disease. We now give 2,000 rads in a single fraction to disease below the mandible and give

TABLE 2
Site of Recurrence by Disease Status

Indication	Overall group		
	Recurrence	Total	Percent
1. Gross	10	12	83%
2. Microscopic	3	19	16%
3. Close	6	23	26%
4. Standard	0	13	0%
	19	67	28%

1,500 rads in a single fraction to disease above the mandible. We now see very little in the way of complications as a result of this treatment.

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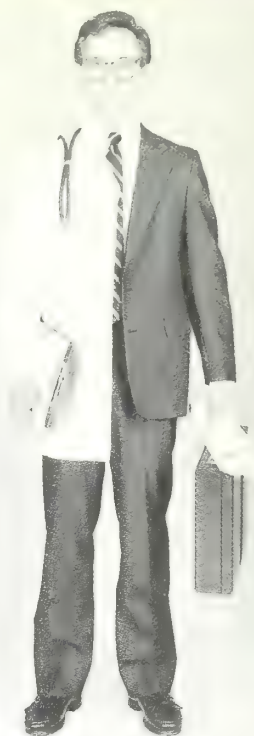
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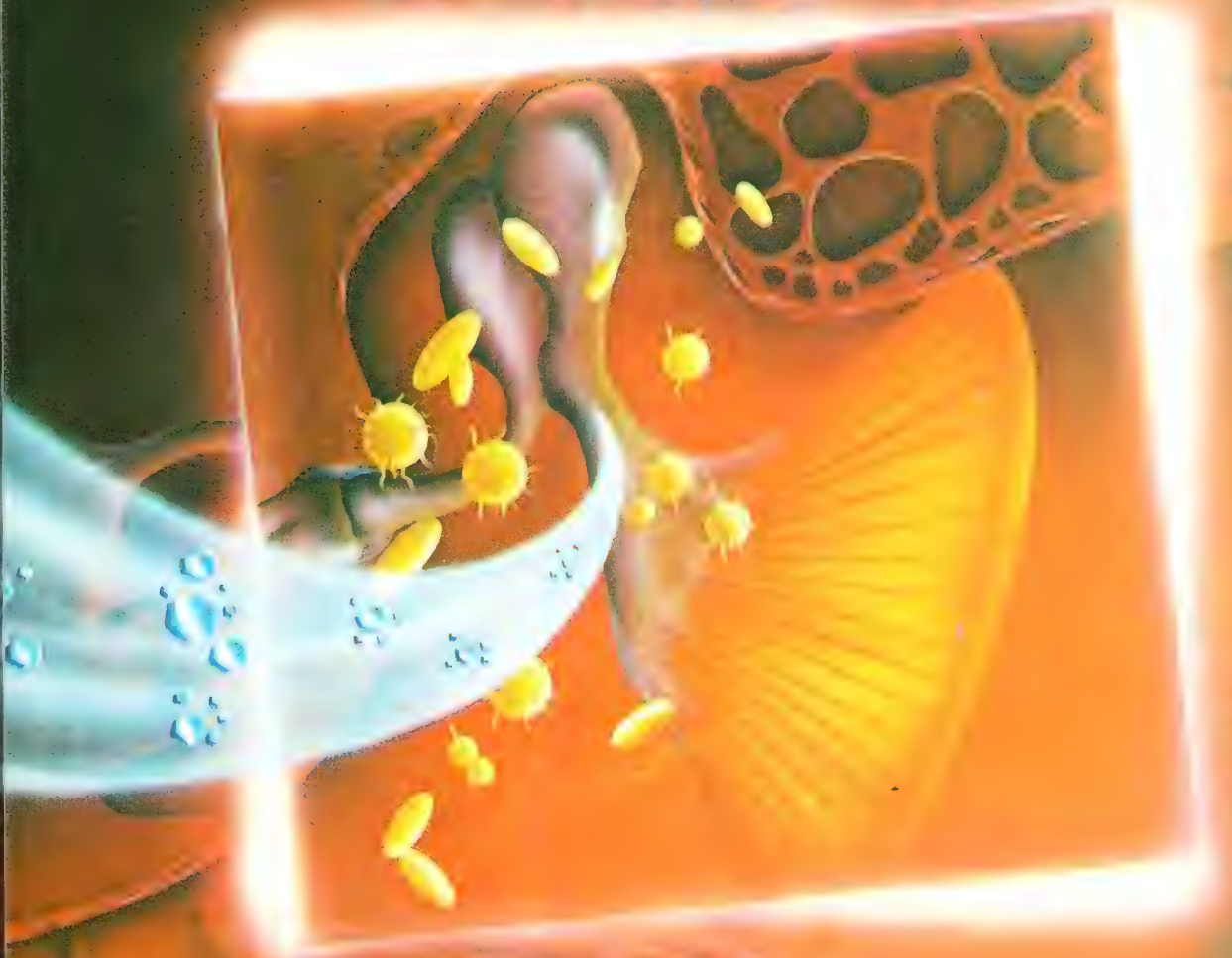


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Electronic Information for Physicians: A New Dimension in Solving Problems

WILLIAM A. YASNOFF, M.D.
American Medical Association

PHYSICIANS OFTEN need to obtain the latest information in a particular medical subject area. This may be a particular disease state, subspecialty or a topic of current interest. Traditional sources for such information are the many available medical news publications, scientific meetings and current medical literature. However, it is often difficult to sort through the plethora of available information to find the specific items of interest.

Electronic information can be helpful in this area. AMA/NET provides several services that directly address the need for current medical information. One of the most useful services is the Associated Press Medical News Service, which provides up-to-the-minute reports of medical news as they are transmitted on the AP newswire. These stories are updated continuously and are available on both a chronologic basis and by subject area. Medical news stories are thus available almost immediately on AMA/NET.

Another useful source of current information is the literature update by specialty. This provides, via a search of EMPIRES, the most recent literature in a given specialty area. The social and economic aspects of medicine (SEAM) database, which is maintained by the AMA, is another useful source of information. This database references selected articles in both medical and non-medical literature that pertain to social, ethical and legal issues

related to the practice of medicine. Topics of current controversy often are represented in this database.

An additional source of current information in AMA/NET is the public health information services. The Centers for Disease Control, the Surgeon General's office and the FDA all provide current information on AMA/NET. For example, the full text of the weekly Morbidity and Mortality report from the Centers for Disease Control is available.

These sources of information, combined with the literature-searching capabilities, make it easy to obtain the latest information on any particular topic of medical interest.

Reference Information

Reference information needed by physicians is traditionally available through a nearby medical library. An example of this type of information on AMA/NET is the CPT procedure codes. The CPT codes are used for reporting most medical procedures to third-party payers. This can be useful when such a code is needed and the printed reference is not available.

Continuing Medical Education

Continuing medical education has become increasingly important as the rapid pace of medical discovery leads to proliferation of new knowledge and changes in previous concepts. The traditional methods for obtaining continuing education involve attending meetings, either locally or by traveling to a remote location, or reading material followed by subsequent self-administered examinations. More recently, CME has been available in videotape form.

Editor's Note: This is the second of a two-part series on electronic information systems and how doctors can use them. The first part of the series was printed in the August issue of *INDIANA MEDICINE*.

Electronic information has a role to play in CME, also. In particular, computers are well suited for patient simulation type of exercises where the effects of many different patient management scenarios can be explored safely and easily. AMA/NET provides access to several such simulations that have been developed at the Massachusetts General Hospital. Examples of these include abdominal pain, diabetic ketoacidosis and hypertensive emergencies. With these programs, access to electronic information can provide new opportunities in continuing medical education.

Communications with Colleagues

Traditionally physicians' communication with their colleagues has consisted of scheduled meetings, either local or remote, chance meetings in the hallway ("curbside consultants"), telephone communication (which is very inefficient), and communication by letter, which frequently is used to report the results of patient referrals.

AMA/NET provides access to a new form of electronic communication: electronic mail. With electronic mail, messages are sent immediately, but stored so that each person sends and receives information as it is convenient. This greatly simplifies written communication with colleagues since

CONTINUED ON PAGE 788



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Electronic Information ...

CONTINUED FROM PAGE 787

sender and receiver do not need to be simultaneously available. Thus, electronic mail can provide the speed of the telephone without the associated inconvenience and delay, and represents a cure for chronic telephone tag.

Electronic communication also can take the form of an electronic bulletin board, allowing announcements to be made that are immediately accessible to system users.

Non-medical Information

Physicians also need information that is not medically related. Obviously, there are numerous traditional sources for all types of information via newspapers, magazines, other periodicals and television. Electronic information provides a supplement to these sources. In particular, AMA/NET provides on-line access to the Official Airline Guide, which is very useful in planning travel, as well as various types of financial information. The latter includes business press releases, financial and commodity news, tax notes and stock and commodity quotations. It also is possible to obtain information about investments managed by AMA Advisers.

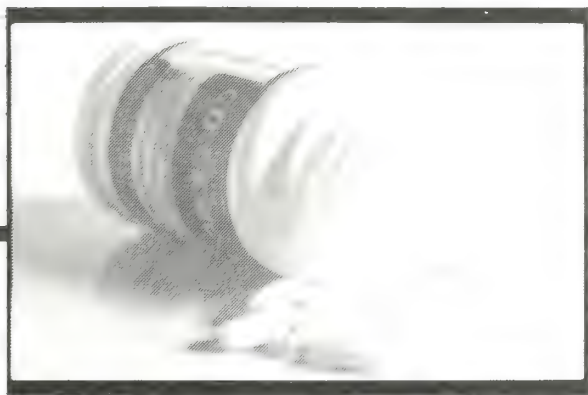
Conclusions

Electronic access to information provides an important adjunct to traditional methods. In some cases electronic information provides capabilities that are not otherwise available. In the future, new forms of electronic information will be available. One such form is the "interactive reference," which provides reference information tailored to an individual patient's situation. With such a reference, the process of extracting information relative to a specific patient from several sources is performed automatically, providing both convenience and time savings.

This report has described some of the information sources and capabilities available on AMA/NET. It is clear that physician access to electronic information greatly expands, but does not replace, traditional information access methods.

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Indiana's Informed Consent Doctrine

JOSEPH M. SCODRO, J.D.
Indianapolis

ALTHOUGH THE term "informed consent" is familiar to all medical practitioners, the concept remains elusive and, at times, highly misunderstood. Apart from the evolving nature of the legal requirements, the principal reason that the relatively simple concept can cause anxiety and confusion among practitioners is that it tests a skill not commonly included in medical school or the postgraduate clinical curriculum. It does not test the skilled hands of the surgeon. It does not test the practitioner's ability to assimilate and analyze laboratory data. Rather, it tests a skill that few individuals ever perfect: the ability to effectively communicate technical information to individuals who lack expertise.

Just as each patient is unique, so is each informed consent. The innumerable variables inherent in the communication process make it impossible to establish a perfect formula which, if employed with each patient, will culminate in an "informed consent." Thus, it stands to reason that there is no "pat" answer or formula or written form that alone is effective in each and every instance.

The concept of informed consent is rooted in the theory of self-determination, that each person has the right to control his or her own body. This right carries with it the right of free choice when faced with multiple options. Therefore, for a consent to be truly "in-

formed" the patient must understand his or her condition and the available options. To do this, the practitioner must translate highly technical information for the patient, giving thought and attention to the patient's limitations. But first, the practitioner must have a working knowledge of the legal requirements of informed consent.

Indiana's Approach

In 1978, Indiana joined the majority of states that hold that a physician may be held liable to a patient for failure to obtain an "informed consent,"¹ but in the years that followed, very few decisions were issued by Indiana courts addressing the doctrine. Then, in 1987, the Indiana Medical Malpractice Act was amended to include a series of provisions, the apparent purpose of which was to more fully delineate Indiana's approach to the informed consent doctrine. Despite passage of these provisions, several important questions remain unanswered, and Indiana law on the subject continues to evolve.

In general, Indiana courts define informed consent as that consent that is obtained from a patient after the physician has made a reasonable disclosure of material facts that are relevant to the decision confronting the patient.² This definition presupposes that the patient or the patient's authorized representative is competent to consent.

As in cases that charge a physician with medical malpractice, in an action involving allegations of failure to obtain an informed consent, a negligence standard is utilized.³ In Indiana, however, it is unclear whether the negligence standard is applied to analyze the adequacy of the disclosure from the standpoint of the practitioner or the patient. In the majority of states, the analysis is made from the stand-

point of the practitioner. In these jurisdictions, the issue is whether the disclosure comports with the standard of a reasonable practitioner in the same or similar circumstances. Under the minority approach, the negligence standard is applied from the standpoint of the patient. Thus, the disclosure is judged against what a reasonably prudent person, in the position of the patient, would need to know to make an informed consent.

Although uncertainty exists with regard to the negligence analysis, Indiana courts have consistently held that the patient must establish a lack of informed consent through the use of expert medical testimony. It is also well established that the patient must prove that the failure to disclose the risk resulted in injury. That is, had the physician made a reasonable disclosure of material facts, the proposed treatment would have been refused and the injury would not have occurred. Unfortunately, it remains to be seen whether an objective or subjective standard will be applied to this "but for" causation test. The objective approach is whether a reasonably prudent patient would have consented or not; and the subjective approach is whether the individual patient would have consented or not.

Against this backdrop of uncertainty, in 1987 the Indiana General Assembly passed legislation amending the Indiana Medical Malpractice Act with the apparent purpose of clarifying for practitioners the theory of "informed consent."⁴

Under the amendments to the act, a rebuttable presumption of informed consent arises where a written consent document is signed by the patient or the patient's authorized representative, witnessed by a person of at least 18 years of age, and the terms are ex-

The author is an associate in the Indianapolis law firm of Bingham Summers Welsh & Spilman.

plained orally or in the written consent document before the treatment, procedure, exam or test is undertaken. According to the new statute, the explanation must include the following information:

1. the general nature of the patient's condition;
2. the proposed treatment, procedure, exam or test;
3. the expected outcome of the treatment, procedure, exam or test;
4. the material risks of the treatment, procedure, exam or test; and
5. the reasonable alternatives to the treatment, procedure, exam or test.⁵

Although passage of this legislation is undoubtedly a step in the right direction, in doing so the Indiana legislature created new areas of uncertainty, and important questions remain unanswered. For example, the issue of what facts are "material" to the decision-making process will likely be a highly fact-sensitive question. In Indiana case law only partially addresses this issue, providing that a physician is not required to disclose all risks inherent in the proposed treatment, but only "known" risks of which the patient is unaware.⁶

The recent amendments also inject uncertainty concerning the question of what constitutes an "expected" outcome. It also remains to be seen what test will be applied concerning the question of whether the physician disclosed "reasonable" alternatives to the treatment, procedure, exam or test.

The amendments to the act also fail to address a theory that recently has been recognized in other jurisdictions. The theory is termed "informed refusal." Under this theory, a practitioner may be held liable for failing to fully inform a patient of material risks

involved in the patient's refusal to consent to proposed treatment.

The existence of uncertainty concerning several important issues relating to informed consent is not unique to Indiana. Judging from the law in other states, it is anticipated that the law in Indiana will continue to evolve. Therefore, it is essential that practitioners develop and continually improve the skills that ensure effective communication.

Conclusion and Recommendations

Apart from the obligation that the law imposes upon practitioners, the process of "informed consent" is nothing more than good communication and good medical practice. This communication allows the physician to better respond to the patient's condition, fears and needs. It also provides the practitioner with the opportunity to fulfill the obligation to educate the public. In short, communication generates an atmosphere of mutual understanding and respect that will, in turn, help solidify the physician-patient relationship. Therefore, all practitioners should strive to improve the communication skills necessary for "informed consent." The following recommendations should assist practitioners in improving these skills:

1. Initiate the communication process of informed consent early. If possible, avoid waiting until the time of treatment when patient fears and anxieties run high.
2. Avoid exclusive reliance upon forms. Such forms may contain highly technical information that patients may not understand, or may not address each patient's specific needs. Forms may also discourage an effective exchange of information between physician and patient.
3. Engage in communication designed to "educate" the patient. In today's

health-conscious society, medical information is disseminated to the lay public at an incredible rate. Therefore, it is essential to correct misconceptions and clarify for the patient what modern medicine truly can offer.

4. Attempt to reach a mutual understanding. Ask patients whether they understand or whether they have any questions regarding the explanation.

5. Memorialize informed consent when it is obtained. Obviously, it is not always possible to document an entire conversation or series of conversations, but a shorthand method is always available.

6. Engage in communication designed to disclose all relevant options and risks. Include whenever practical the "no action" alternative. In addition, if there is a doubt, disclose the information or risk.

Note: The litigation practice at Bingham Summers Welsh & Spilman includes the defense of medical malpractice claims as well as a broad range of other services for physicians, hospitals, nurses and other health care providers. The author of this article and other Bingham Summers Welsh & Spilman attorneys are available for the presentation of seminars designed to inform health care providers of the nature and scope of health care laws in Indiana. For further information regarding these seminars, contact Joseph Scodro at Bingham Summers Welsh & Spilman, 2700 One Indiana Square, Indianapolis, Ind. 46204, telephone (317) 635-8900.

REFERENCES

1. *Joy v. Chau*, 377 N.E.2d 670 (Ind. Ct. App. 1978).
2. *Id.* at 676-77.
3. *Revord v. Russell*, 401 N.E.2d 763 (1980).
4. Ind. Code §16-9.5-1-4.
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Are We Trading Disability for Death?

MAJOR ADVANCES in medical treatment and prevention have resulted in longer lives. However, and ironically, a person afflicted with a "killer" disease may become a disability statistic. In many cases, disability has been traded for death.

The results of this trend have increased the need for disability insurance, particularly insurance that protects against a partial or residual disability.

Major killer diseases for middle-aged Americans are hypertension, diabetes and cerebrovascular and heart disease. Medical evidence indicates an increasing frequency of these diseases, but a lower fatality rate. Simply put, today Americans have a higher probability of having these diseases, but a lower probability of dying from them.

Many reasons account for this trend. The American population is better informed and more willing and able to seek early medical help. Improved treatment rescues many from death. *Table 1* summarizes major disease changes among people ages 45 to 65 over the past 20 years.

However, by staying alive longer, people have more years for the illness to advance and are more susceptible to other diseases. These trends are consistent with other diseases as well. Accordingly, both the probability and length or duration of a disabling illness is increasing in American society. For example, the probability of at least one long-term disability lasting at least three months before age 65 is summarized in *Table 2*.



GREGORY WRIGHT, CFP
Indianapolis

As previously discussed, the duration of these disabilities is increasing. Further, the frequency of disability is two to six times more prevalent than death before age 65. *Table 3* summarizes the duration of disabilities.

Once struck by a disabling disease, the survivors often are not fully disabled. They can continue working, but at reduced levels. Many are encouraged to alter their lifestyles in order to prolong their lives. This has resulted

in an increased emphasis on the partial or residual benefits of disability insurance. The frequency of a partial disability exceeds that of a total disability by a two to one ratio, according to insurance industry claims information.

These trends tend to compound errors made in selecting proper disability insurance protection. The majority of disability insurance policies owned by physicians are inappropriate or provide insufficient benefits. The following are three common errors made in selecting a proper policy:

1. The so-called "income replacement" policy is inappropriate for the majority of self-employed physicians. This is because of the difficulty in demonstrating a loss of income while medical fees trickle in for several months after you are sick or hurt. Most plans measure income on a cash basis, not an accrual basis. Accordingly, it may take six months or longer beyond the policy elimination period before you receive an insurance benefit.

Self-employed persons, such as physicians, should select a disability insurance policy that uses a "time and duties" test or measures income based on when treatment was given, and not when the cash is received.

2. The disability recovery benefit is nonexistent or limited to a few months. The recovery benefit is the period of time, following a disability, when you are back at work full-time rebuilding your practice.

TABLE 1

Disease	Death	Disability
Hypertension	-73%	+70%
Heart disease	-29%	+44%
Cerebrovascular disease	-48%	+36%
Diabetes	-27%	+36%

The author is president of Conner Planning, Inc., a business financial planning company affiliated with the Conner Insurance Agency, Inc. Offices are located in Indianapolis, Bloomington and Kokomo, Ind.

Since you might have been off work for several months, or even several years, it will take time to rebuild your practice. Patients have gone elsewhere, and referring physicians have established other relationships. Few policies assist you during this period. Faced with this situation, many stay on the disabled roles and never practice again.

3. The "own occupation" benefit is limited to total disability only. This renders the "own-occ" benefit inconsequential for most physicians. The "own-occ" benefit is not supposed to recognize income from income sources other than your specific occupation.

However, since a partial disability is much more prevalent than a total disability, the "own-occ" definition should equally apply to partial and/or residual benefits. Unfortunately, this is not the case in most so-called "own-occ" policies.

In conclusion, health statistics show increased frequency but decreased mortality for "killer" diseases. Those afflicted are living longer. However, this has resulted in increased incidents and duration of disability. Further, partial disabilities are also more commonplace. These factors increase your need to select proper disability insurance and avoid three common mistakes made by most physicians.

TABLE 2
Probability of Disability

Age	Probability of Disability
25	44%
30	42%
35	41%
40	39%
45	36%
50	33%
55	27%

TABLE 3

Age	Average Years of Disability	Probability of Lifetime Disability
25	4.3 years	25%
30	4.7 years	26%
35	5.1 years	28%
40	5.5 years	30%
45	5.8 years	33%
50	6.2 years	36%
55	6.6 years	40%



AUXILIARY REPORT

Ann Wrenn, Bloomington
ISMA Auxiliary President 1988-89

Following the Summer Olympics, the Presidential campaign and election, back home in Indiana we will begin hearing more about preparations for the 1989 "long session" of the General Assembly. We again will be reminded of the increasing involvement of government in determining health care policy. When the citizens of Indiana start hearing about issues such as mandatory assignment, AIDS policies, the medical malpractice act, medical review panels and infant mortality, medical families, physicians and auxiliaries must be able to understand and respond as informed "advocates for medicine."

Our main goal as legislative chairmen for this auxiliary year is to encourage members to become informed about the issues and familiar with the

terminology so that we can all be effective advocates for medicine, helping to educate friends, neighbors and local legislators.

Several opportunities will be available to prepare our members and their physician spouses for this crucial task. The Department of Government Relations of ISMA is sponsoring legislative dinners in various locations around the state before election day. These will provide opportunities to meet the candidates and incumbents and to discuss legislative issues of concern to medicine. Auxiliaries are encouraged to attend.

In September, the ISMA Auxiliary will conduct mini-conferences, training sessions for county auxiliary leadership. Legislation will be one area of focus. Information about legislation

and issues expected in 1989 will be provided for county leaders to take home to their membership.

While the legislature is in session, the ISMA Auxiliary will again sponsor a "Day at the Capitol" for members and legislators. Auxiliaries will be able to meet with their legislators on an informal level to hear their views and discuss current issues.

We, as legislative chairmen, will try to be available to county auxiliaries to encourage members to become involved and educated. Julie Newland, director of Government Relations of ISMA, and her staff are extremely supportive and helpful to the ISMA Auxiliary and provide information and materials for us to use in our efforts.—**Barbara McConnell and Cheryl Haslitt, ISMA Auxiliary Legislative Co-Chairmen.**

CME QUIZ

TO OBTAIN ONE HOUR OF CATEGORY 1 AMA CME CREDIT, answer the following questions by circling the correct answer on the answer sheet below. Complete and clip the application form and mail it to: Indiana University School of Medicine, CME Division, BR 156, 1226 W. Michigan St., Indianapolis 46223.

Brain Abscess

CONTINUED FROM PAGES 757-764

- The causative organism in the majority of brain abscesses that develop in association with sinusitis is:
 - Staphylococci
 - Hemophilus influenzae*
 - Bacteroides* species
 - Streptococci
- The most common predisposing condition leading to the development of a brain abscess is:
 - Cranial trauma, either surgical or accidental
 - Bacterial endocarditis
 - A cranial site of infection (otitis media, frontal sinusitis or mastoiditis, etc)
 - Intraabdominal and pelvic infections
- Brain abscess is a rare complication of meningitis, except in association with meningitis caused by:
 - Hemophilus influenzae*
 - Citrobacter diversus*
 - Streptococcus pneumoniae*
 - Listeria monocytogenes*
- The most common sign/symptom of a brain abscess is:
 - Focal neurological deficit
 - New onset seizure activity
 - Fever, vomiting, lethargy
 - Headache
- Patients with a brain abscess are likely to present with any of the following except:
 - Alterations in consciousness
 - An enlarging head
 - Signs of meningitis
 - Dementia
- All of the following are true about examination of the CSF in patients with brain abscess except:
 - The finding of low glucose indicates that the meninges have been breached by bacteria
 - The presence of an elevated cell count in the CSF is directly related to the stage of encapsulation of the abscess
 - Lumbar puncture is safe if only a small amount of CSF is removed
 - Lumbar puncture should be avoided because of the danger of herniation of the brainstem
- With regard to management of a brain abscess, which of the following is true:
 - Systemic antibiotic therapy alone is often successful in eradicating brain abscess by CT scan in the stage of *early* capsule formation
 - Antibiotics that are successful in penetrating the blood-brain barrier are successful in sterilizing the purulent core of an abscess.
 - Excision, rather than drainage or repeated aspiration, is the surgical method preferred for children
 - Excision is the procedure of choice in lesions that are greater than 4 cm in size on CT scan
- For empiric therapy of brain abscess, a combination of which *two* antibiotics is recommended:
 - Penicillin plus chloramphenicol
 - Penicillin plus metronidazole
 - Moxalactam plus chloramphenicol
 - Cefotaxime plus vancomycin
- All of the following are true regarding the use of steroids in the management of brain abscess, except:
 - Steroids decrease the permeability of blood vessels and subsequently decrease cerebral edema

AUGUST CME QUIZ Answers

Following are the answers to the CME quiz that appeared in the August 1988 issue: "Amyotrophic Lateral Sclerosis."

- | | |
|------|---------|
| 1. e | 6. e |
| 2. d | 7. a, d |
| 3. d | 8. d |
| 4. d | 9. d |
| 5. b | 10. e |

CONTINUED ON PAGE 814

Answer sheet for Quiz: (Brain Abscess)

- | | |
|------------|-------------|
| 1. a b c d | 6. a b c d |
| 2. a b c d | 7. a b c d |
| 3. a b c d | 8. a b c d |
| 4. a b c d | 9. a b c d |
| 5. a b c d | 10. a b c d |

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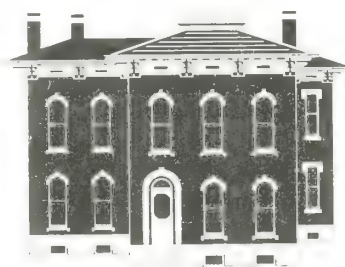
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YOUR TELEPHONE PERSONALITY

by Arthur R. Pell, Ph.D., Consultant
Dale Carnegie & Associates, Inc.

Every time you pick up the telephone—whether to make or receive a call—you are leaving an impression on the person at the other end of that line. Often, you and that person have never met and the only image that person will have of you and your company will derive from this conversation.

In face-to-face communication, there are many tools that help you to make good (or bad) impressions: your facial expressions, your gestures, your use of props or visual aids. With the telephone, there is only one tool: your voice. Do you know how you sound to others? Most people do not really hear themselves as others hear them. The best way to obtain a true concept of how you sound to others is to tape several telephone calls and evaluate how they come across when you replay them.

Your Voice

Listen to the way your voice sounds. Do you mumble? swallow word endings? speak too fast or too slowly? speak in a monotone? interject your thoughts with such "word whiskers" as "er," "uh huh," "OK," "y'know," "like," and similar detracting sounds or words? By being aware of this, you can easily learn to overcome the problem.

Your Attitude

One of the prime characteristics of effective dealing with others is to be friendly. Do you sound friendly on those tapes? or do you sound annoyed? This call may have come at an inopportune time. You are pressed by a demanding boss, a deadline that you are trying to meet, a crisis in the department. But this is not known (or cared about) by the caller. You must discipline yourself to put everything other than that phone call out of your mind.

If you are upset about anything, before picking up the phone, take a deep breath, relax your muscles and clear your mind. Be calm, be attentive and the impression you wish to make—a concerned interest in what that person is saying—will be projected.

Telephone Tactics When Receiving a Call

Answer the phone promptly. In a business situation, the phone should not ring more than three times before it is answered. If you are on another call, either arrange for a colleague to answer your calls if it is likely that they cannot be picked up promptly by you, or if appropriate, acknowledge the new call and either request they wait for a few minutes, or take the number and call back. If you know you will be away from your desk for more than a few minutes, arrange for somebody to take your calls or use an answering machine.

Always identify yourself immediately. Instead of saying "hello," say "Engineering Dept., Sam Johnson speaking." You cannot assume that the person calling knows who you are. If the caller is not known to you, ask for his or her name. If it is an unusual name, ask how it is spelled. Write it down. When responding, use the caller's name. It demonstrates your sincere interest in that person and his or her problem. If you cannot provide the answer to the caller's questions within a very few minutes, it is better to advise that you will call back rather

than have the caller hold for a long time. If he or she prefers to hold or it takes longer than anticipated to respond, get back frequently so the caller knows that he or she has not been abandoned.

One of the most irritating aspects of telephoning a company is to be told that you will be transferred to another person and then being disconnected. If it is necessary to transfer a call, always tell the person to whom they will be transferred and the extension or phone number (if different from yours). It is also a good idea to obtain their number, so that if you are aware of the disconnect, you can call back.

Respond, not only to direct questions, but to implied objections. When Martha Martin called the Mail Order Department to complain about receiving damaged merchandise, she seemed upset when she was told to return it by United Parcel Service. Sally Sinclair, the Customer Service representative, recognized her concern and quickly told Mrs. Martin that she did not have to make a trip to the UPS shipping center, but that they would arrange for UPS to pick up the package at her home.

By anticipating her concern, not only did the customer service representative make the customer feel better about the situation, but made a friend for the company.

Telephone Tactics When Making a Call

The beginning and end of a telephone conversation are critical points. Begin your call with a welcome attitude that shows you are glad to be talking to that person and that the call is important to that person. If you are a stranger, identify yourself and tell why you are calling.

"Good morning, Mrs. Samuels, as a mother who has children in our schools, I know you are concerned about the quality of education in this district. This is Blanche Harkins, campaign manager for Diane McGrath, who is running for the school board presidency."

After making her presentation, listening and responding to her questions, Ms. Harkins will conclude in a positive way: "Thank you for your attention. I look forward to meeting you at the board meeting next Tuesday."

Plan your calls before picking up the phone. If you have to cover five items in a call, make a list of these items. Note the major points you wish to make for each of them. Follow your plan when talking and the call will be accomplished more effectively and in less time.

Listen to the other person. His or her responses may make it necessary to adjust your original plan. Ask questions and pay close attention to the responses. This is true of all communications, but particularly valuable with the telephone because you do not have the advantage of watching the non-verbal signals given in face-to-face dealings. Learn to "read" the nuances of changes in inflection and voice tone.

Think out the message you plan to send from the listener's point of view and most problems will be minimized.

Pocket/purse size reprints may be purchased (10 for \$10.00) or (25 for \$20.00) from Dale Carnegie & Associates, Inc. 1475 Franklin Avenue, Garden City, NY 11530

Hospital Staff, CEOs Satisfied: Survey

Most hospital governing body leaders, CEOs and senior medical staff officers are currently satisfied with their working relationships. That was one finding of a survey by the Joint Commission on Accreditation of Healthcare Organizations.

Sent to 21,306 prospective respondents, the mail survey asked the governing body leader, the CEO and the senior medical staff officer at each hospital to assess the current and future status of relationships among the three groups.

More than 80% of each group of respondents said they were satisfied with current relationships, and 65% or more of each group predicted that relationships would improve over the next five years.

Joint Commission President Dennis O'Leary, M.D., said that survey findings will be used to revise standards that focus on responsibilities of the governing body, management and medical staff.

Emergency Physicians Speak Out on AIDS

The American College of Emergency Physicians' Board of Directors has adopted a statement of principles on

Send your news items and comments to the Editor, INDIANA MEDICINE, 3935 N. Meridian St., Indianapolis 46208.

HIV infection and AIDS. The statement is to serve as a guide for emergency physicians, emergency personnel and other health care providers to ensure that all individuals have access to care and treatment, and to prevent the needless transmission of the disease.

Access to care, testing, employing HIV-positive health care workers, education and prevention, reporting and notification of third parties are addressed in the statement.

ACEP opposes mandatory HIV antibody testing of health care workers and mandatory testing of patients as a condition for receiving emergency medical services. It recommends that HIV antibody testing should be recommended to those patients who engage in high-risk behavior.

According to the statement, physicians should be allowed to notify identified at-risk third parties, but only after informing the infected patient of that intent and giving the patient the opportunity to do so.

Hospitals Receive Geriatrics Grants

The John A. Hartford Foundation will donate \$3 million over the next three years to 10 medical centers to strengthen academic geriatric programs. Funds will be used to attract greater numbers of young and mid-career physicians to the field of academic geriatrics.

Those trained will assist with academic geriatrics programs at medical schools, hospitals and long-term care facilities and agencies across the country.

Grants were awarded to: Bowman Gray School of Medicine, Winston-Salem, N.C.; Duke University, Durham, N.C.; Harvard University, Boston; Johns Hopkins University, Baltimore;

Mount Sinai School of Medicine, New York; University of California at Los Angeles; University of Connecticut, Farmington; University of Michigan, Ann Arbor; University of Pennsylvania, Philadelphia; and the University of Washington, Seattle.

The Hartford Foundation is a private, New York City-based philanthropy established in 1929 by John A. Hartford.

Drug-Free Youth Campaign Kicks Off With Red Ribbons

The National Federation of Parents for Drug-Free Youth will sponsor the first annual nationwide Red Ribbon Campaign Oct. 23-30. During the week, the public will be encouraged to wear a red ribbon with the message "The Choice for Me, Drug Free." Honorary chairmen of the event are President Ronald Reagan and Nancy Reagan.

The local sponsor is the Indiana Federation of Communities for Drug-Free Youth. For more information contact: Jean Pock, executive director, 39 Boone Village, Zionsville, Ind. 46077-(317) 873-3900.

For the Asking

- "Inspiration," a resource booklet for asthmatics and parents of asthmatics, is now available at no charge from Fisons Corporation. It includes information on books, newsletters, organizations/support groups, hospitals, asthma and allergy disease centers, equipment, and a special video for parents and teachers. Each entry includes a brief description of the resource and how it may be ordered. Write: Inspiration, Fisons Corporation, 307 Silver Street, Coventry, Conn. 06238.

- The Sleep Science Information Center has a free new booklet, "Tips for Overcoming Jet Lag," which explains why people experience jet lag and how they can avoid or minimize the symptoms. Write to Jet Lag Booklet, Box 307, Coventry, Conn. 06238.



Here and There . . .

Dr. Steve Simpson, a Gary pediatrician, was named "Physician of the Year" by the Northwest Indiana Chapter of the National Medical Association.

Dr. Anthony J. Cossell, a Noblesville internist, discussed "What's New With Your Heart?" at the June meeting of the Respiratory Health Club, which is co-sponsored by Riverview Hospital and the American Lung Association of Indiana/Central Region.

Dr. Robert C. Kaye, a Rensselaer family practitioner, recently attended the Nineteenth Family Medicine Review, a continuing medical education conference, in Lexington, Ky.

Dr. James W. Ehlich Jr., an Indianapolis rheumatologist, was a featured speaker at a public forum on arthritis, co-sponsored by the Indiana Chapter of the Arthritis Foundation and the Wildwood Healthcare facility in Indianapolis.

Dr. Harold M. Manifold, a Bloomington family physician and president of the Indiana University School of Medicine Alumni Association, was recently presented the 1988 Distinguished Medical Alumni Award by the association.

Dr. Kurt H. Stiver, an obstetrician/gynecologist in South Bend, recently discussed medical advances in childbirth during a free lecture at Memorial Hospital of South Bend.

Dr. Olga M. Booher, an Indianapolis pediatrician, recently was elected recording secretary of the Indianapolis Propylaeum for the 1988-89 year.

Dr. John B. Beaven, a Jasper abdominal surgeon, recently was given the first "Georgine Hardwick" Humanitarian Award, established to honor individuals who "go beyond normal boundaries of dedication, sharing and caring" and go to extra lengths to support the field of heart health; the Dubois County chapter of the American Heart Association presented the award.

Dr. Jack T. Collins, a Bluffton cardiologist, recently was re-elected president of the Indiana Affiliate of the American Heart Association.

Dr. Martin J. O'Neill, specializing in emergency medicine in Valparaiso and a past president of the Indiana State Medical Association, was an alternate delegate to the 1988 National Republican Convention, representing the Fifth Congressional District of Indiana.

Dr. Marvin E. Vollmer, an Indianapolis neurologist, recently presented a community educational program titled "Overview of Headaches," sponsored by the Morgan County Memorial Hospital in Martinsville.

Occupational health physician Dr. Steven R. Smith, Indianapolis, presented a mini luncheon seminar entitled "Occupational Health . . . What Is It?"

Dr. Robert A. Garrett, an Indianapolis urological surgeon and director of the Indiana University School of Medicine urology department for 17 years, recently was given the faculty award by the Indiana University School of Medicine Alumni Association.

Dr. Larry G. Thompson, a South Bend anesthesiologist, recently gave a talk on epidural anesthesia for labor and delivery, sponsored by Memorial Hospital's Regional Center for Mother and Child Care.

Dr. James E. Hull, a general surgeon in Lafayette, recently attended the joint meeting of the Royal College of Surgeons of Ireland and the American College of Surgeons in Dublin; this was the first joint meeting between these two organizations.

Dr. Lee G. Jordan, a gastroenterologist; Dr. A. Cedric Johnson, a general surgeon; and Dr. Dean D. Maglinte, all of Indianapolis, completed the Dornier Gallstone Lithotripter In-service Training at the Crawford Long Hospital of Emory University Biliary Lithotripsy Center; they will coordinate the Methodist Center for Gallstone and Biliary Tract Disease in Indianapolis.

Dr. Ernest W. Stiller Jr., a LaPorte orthopedic surgeon, conducted a question and answer period during a public education program on arthritis co-sponsored by the Swanson Activity Center for Older Adults and Pfizer Laboratories.

Physician Recognition Awards



The following ISMA physicians are recent recipients of the AMA's Physician Recognition Award. This award is official documentation of Continuing Medical Education hours earned, and is acceptable proof in most states requiring CME in re-registration that the mandatory hours of CME have been accomplished.



Bowman, John A., Kokomo
Byler, John J., South Bend
Cole, Stephen L., Auburn
Dahling, Fred W., New Haven
Dancel, Manuel T., Scottsburg
Ellis, Robert F., Merrillville

Garagiola, David M., Indianapolis
Gilliland, John E., Franklin
Han, Sangho, Munster
Malak, Thaddeus J., Valparaiso
Moayad, Cyrus, Valparaiso
Parks, Herbert E., Indianapolis
Riley, Paul D., Indianapolis

Slack, John D., Indianapolis
Smith, John Parker, Bluffton
Surian, Michael A., Bloomington
Thompson, John M., South Bend
Weinland, George C., Columbus
Welch, Anna L., Lafayette

NEWS NOTES

New ISMA Members

Vanessa Z. Ameen, M.D., Indianapolis, pediatrics.

Thomas P. Bathrick, D.O., South Bend, internal medicine.

Hal A. Bauman, M.D., Sellersburg, internal medicine.

Robert D. Bond, M.D., Evansville, family practice.

Kevin C. Coss, M.D., Indianapolis, internal medicine.

David M. Fesak, D.O., Coatesville, family practice.

Thomas M. Gadiant, M.D., Henderson, Ky., urological surgery.

Mary M. Green, M.D., Jeffersonville, emergency medicine.

David B. Hough, D.O., South Bend, internal medicine.

Stephen G. Lalka, M.D., Indianapolis, general surgery.

El-Sayed E. Mansi, M.D., Jeffersonville, anesthesiology.

Imad Murabit, M.D., Evansville, cardiovascular diseases.

Artha Shelley, M.D., Wabash, general surgery.

Stephen Shoemaker, D.O., Boonville, general practice.

Richard W. Wolfe, D.O., Granger, emergency medicine.

Alice B. Wood, M.D., Bloomington, obstetrics and gynecology.

Residents:

Frederick H. Albrink, M.D., Louisville, Ky., therapeutic radiology.

James A. Arata Jr., M.D., Fort Wayne, diagnostic radiology.

Jeff B. Atwood, M.D., South Bend, family practice.

John T. Blodgett, M.D., Louisville, Ky., psychiatry.

Catherine A. Cockerill-Moran, M.D., Indianapolis, radiology.

Scott K. Douglas, M.D., Indianapolis, family practice.

Dan L. Ecklund, M.D., South Bend, family practice.

Raymond M. Harwood, M.D., Indianapolis, internal medicine.

Mark J. Janicki, M.D., Indianapolis, neurology.

Henry M. Jones, M.D., Indianapolis, radiology.

Elizabeth A. Kozak, M.D., Indianapolis, internal medicine.

Joseph S. Ladowski, M.D., Fort Wayne, cardiovascular surgery.

Karen L. Mahakian, M.D., Indianapolis, cardiovascular diseases.

John G. Nemcek, M.D., Indianapolis, internal medicine.

Paul J. Raiman, M.D., Fort Wayne, colon and rectal surgery.

William R. Rate, M.D., Indianapolis, therapeutic radiology.

John P. Reed, M.D., Indianapolis, pediatrics.

Helen G. Robins, M.D., Indianapolis, family practice.

Gregory A. Rowdon, M.D., Indianapolis, internal medicine.

Steven M. Schwartz, M.D., Indianapolis, family practice.

Kathleen A. Shook, M.D., Indianapolis, psychiatry.

Andrew W. Tharp, M.D., Indianapolis, internal medicine.

Frederick E. Van Bastelaer, M.D., Indianapolis, anatomic and clinical pathology.

Karla C. Zody, M.D., Kingman, family practice.

Booklet Explains Social Security Benefits

Important information about Social Security benefits is covered in a 100-page booklet, "What You Should Know About Your Social Security Now." Social Security dues and taxes, how to protect your coverage, your earnings record, and how to check and correct errors in your benefits are explained.

Copies are available for \$6.95 plus 55 cents postage from: the National Institute of Business Management, Inc., Department 88820, P.O. Box 10676, Des Moines, Iowa 50336.

Diabetes Complications

"The Dilemmas of the Complications of Diabetes" is the subject of a seminar sponsored by the University of Michigan Medical School Michigan Diabetes Research and Training Center and the Michigan Affiliate—American Diabetes Association. The course will be Oct. 17 and 18 at the Towsley Center in Ann Arbor. Write or phone Gayle Fox, Office of CME, Towsley Center, Box 0201, The University of Michigan Medical School, Ann Arbor, Mich., 48109-0201—1-800-962-3555.

CME QUIZ . . .

CONTINUED FROM PAGE 797

- b. A short course of steroids is recommended in patients with increased intracranial pressure from an expanding mass lesion
 - c. Steroids enhance diffusion of antibiotics into the abscess
 - d. Steroids decrease the number of polymorphonuclear leukocytes at the infected focus
10. Since 1975, there has been a significant reduction in mortality from brain abscess, yet morbidity remains high. All of the following are true, except:
- a. The major morbidity from brain abscess is associated with surgical intervention
 - b. The incidence of neurologic sequelae is between 30 and 55%
 - c. The incidence of postoperative seizure disorder ranges from 30-50%, with this complication only developing within the first six months after surgery
 - d. CT scanning has made a tremendous contribution to the management of this infection



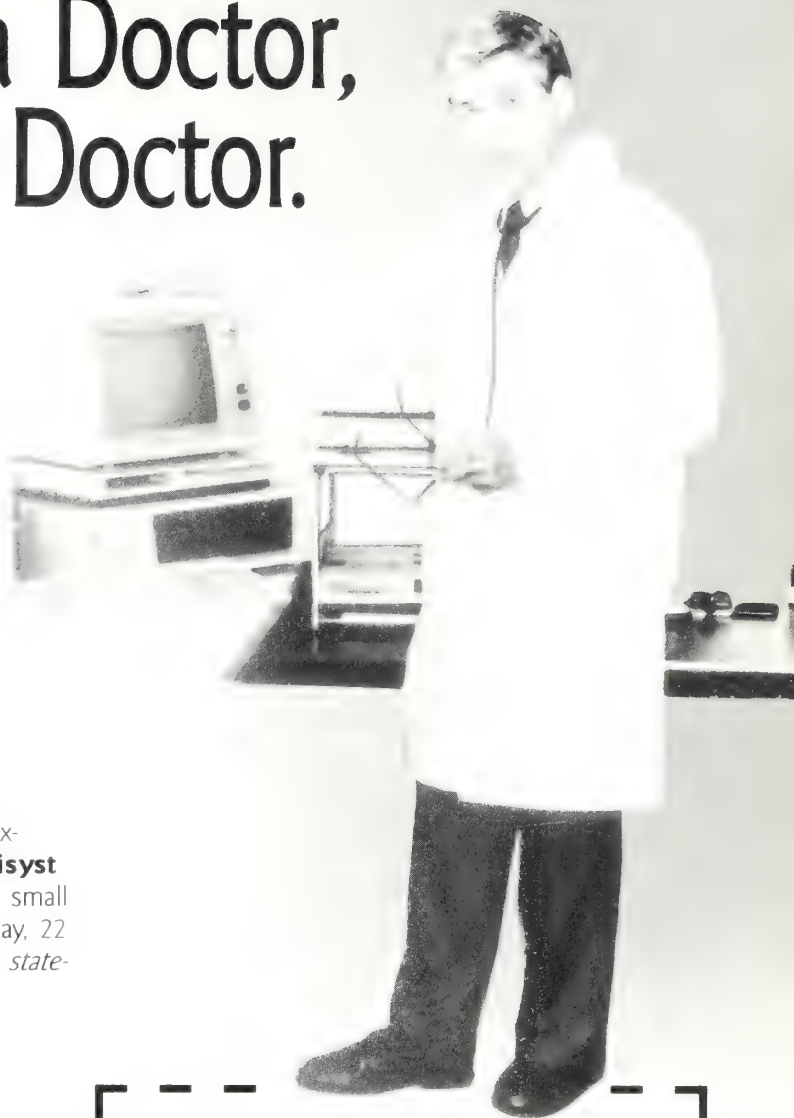
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OPHTHALMOLOGY PRACTICE FOR SALE—Excellent opportunity for M.D. to assume general ophthalmology practice in southeastern Illinois. Gross income \$475k; low overhead; modern equipment (including lasers); facility on grounds of 100+ bed hospital; terms available: will introduce. Call or write: R.L. Hirsh Associates, Ltd., 1855 Union Boulevard, Bay Shore, N.Y. 11706—(516) 665-0439, Attn: Gregory Nizich.

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INDIANA, Indianapolis: Immediate and July '89 emergency medicine positions available in high volume department, St. Vincent Hospital. Qualified physicians ABEM certified or prepared. Comprehensive benefit package and insurance provided. Excellent family and sports community. Send CV to Susan Stephens, M.D., 11011 Ditch Rd., Carmel, IN 46032; or call (317) 844-9640

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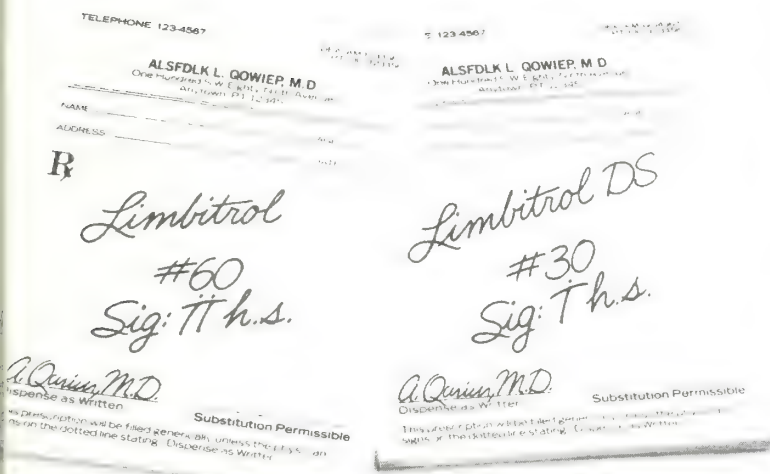
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Before prescribing, please consult complete product information, a summary of which follows:

Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants; concurrent use with MAOIs or within 14 days of monoamine oxidase inhibitors (then initiate cautiously, gradually increasing dosage until optimal response is achieved); during acute recovery phase following myocardial infarction.

Warnings: Use with caution in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur when used with anticholinergics. Closely supervise cardiovascular patients. Arrhythmias, sinus tachycardia, prolongation of conduction time, myocardial infarction and stroke reported with tricyclic antidepressants, especially in high doses. Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

Usage in Pregnancy: Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations. Consider possibility of pregnancy when instituting therapy. Withdrawal symptoms of the barbiturate type have occurred after discontinuation of benzodiazepines (see Drug Abuse and Dependence).

Precautions: Use cautiously in patients with a history of seizures, in hyperthyroid patients, those on thyroid medication, patients with impaired renal or hepatic function. Because of suicidal ideation in depressed patients, do not permit easy access to large quantities of drug. Periodic liver function tests and blood counts recommended during prolonged treatment. Amitriptyline may block action of guanethidine or similar antihypertensives. When tricyclic antidepressants are used concomitantly with cimetidine (Tagamet), clinically significant effects have been reported involving delayed elimination and increasing steady-state concentrations of the tricyclic drugs. Use of Limbitrol with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Should not be taken during the nursing period or by children under 12. In elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects. Inform patients to consult physician before increasing dose or abruptly discontinuing this drug.

Adverse Reactions: Most frequent: drowsiness, dry mouth, constipation, blurred vision, dizziness, bloating. Less frequent: vivid dreams, impotence, tremor, confusion, nasal congestion. Rare: granulocytopenia, jaundice, hepatic dysfunction. Others: many symptoms associated with depression including anorexia, fatigue, weakness, restlessness, lethargy.

Adverse reactions not reported with Limbitrol but reported with one or both components or closely related drugs: **Cardiovascular:** Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke. **Psychiatric:** Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania, increased or decreased libido. **Neurologic:** Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns. **Anticholinergic:** Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract. **Allergic:** Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus. **Hematologic:** Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia. **Gastrointestinal:** Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue. **Endocrine:** Testicular swelling, gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion. **Other:** Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

Drug Abuse and Dependence: Withdrawal symptoms similar to those noted with barbiturates and alcohol have occurred following abrupt discontinuance of chlordiazepoxide; more severe seen after excessive doses over extended periods; milder after taking continuously at therapeutic levels for several months. Withdrawal symptoms also reported with abrupt amitriptyline discontinuation. Therefore, after extended therapy, avoid abrupt discontinuation and taper dosage. Carefully supervise addiction-prone individuals because of predisposition to habituation and dependence.

Overdosage: Immediately hospitalize patient. Treat symptomatically and supportively. I.V. administration of 1 to 3 mg physostigmine salicylate may reverse symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

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Caution patients about the combined effects of Limbitrol with alcohol or other CNS depressants and about activities requiring complete mental alertness, such as operating machinery or driving a car. In general, limit dosage to the lowest effective amount in elderly patients.

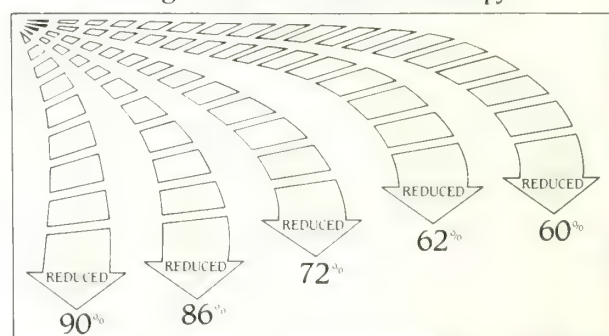
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Percentage of Reduction in Individual Somatic Symptoms During First Week of Limbitrol Therapy*



VOMITING NAUSEA HEADACHE ANOREXIA CONSTIPATION

*Patients often presented with more than one somatic symptom.



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Please see summary of product information inside back cover.

OCTOBER 1988

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NO. 10

INDIANA MEDICINE

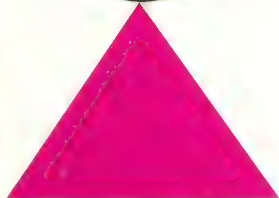
The Journal of the Indiana State Medical Association



1988 ANNUAL MEETING

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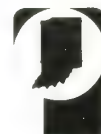
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Devoted to the interests of the medical profession and public health in Indiana since 1908.

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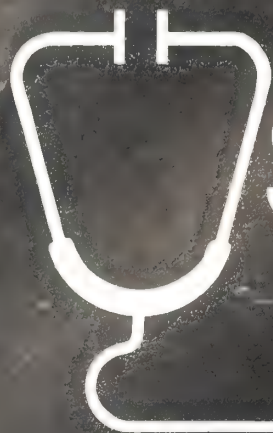
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ABOUT THE COVER

"Maintaining the Balance of Medical Care" is the theme of this year's ISMA convention, which will be Oct. 21-23 at the Radisson Plaza Hotel in Indianapolis. For more information on the meeting, see the pre-convention section in this issue.—COVER DESIGN BY LINDA KAMER



STETHOSCOPE

EXAMINING STATE & NATIONAL MEDICAL ISSUES

The Harvard resource-based relative value scale study is expected to be issued this month. The AMA plans to interpret the impact of the RBRVS on physicians. That process may take some time. The final report is seven inches thick. Early speculation indicates the report will call for reduced surgical fees and an increase for primary care physicians.

For the third time since the "medically unnecessary" rule took effect, the Health Care Financing Administration has changed its procedures for informing patients about the regulation. The rule applies to services after Sept. 1. According to the new rule:

1) Routine and general notices implying that denial is always possible will not be considered sufficient to remove the physician's financial liability.

2) Doctors must offer a specific rationale for why the service may be denied.

3) HCFA has proposed model language that includes a list of 14 possible explanations for why Medicare won't pay. Physicians are to select the appropriate explanation from the list, then ask the beneficiary to sign a statement agreeing to be responsible for paying for the service if Medicare denies the claim.

Doctors should attach the statement to assigned claims or ask the patient to attach it to unassigned claims.

HCFA says all doctors should document that all services are necessary and use the written agreements when they suspect a claim will be denied.

On unassigned claims which are denied, physicians and patients are notified that a refund may be due. The doctor must either make the refund to the patient or seek a review within 30 days.

If he loses the initial review, the refund must be made within 15 days.

Under the new policy, doctors who sign a participating agreement or take assignment on a claim may also be subject to the refund provisions of the medically unnecessary rule. If an assigned service is determined to be unnecessary, the physician is not required to make a refund to the patient. But, Medicare may make the refund to the patient and take it out of future payments to the physician.

On assigned claims, both the patient and physician are notified. After the patient has applied to Medicare for a refund, the physician is notified of the amount Medicare believes should be repaid. The physician has 15 days to question the amount, but no sanctions may be applied.

ISMA has prepared a written agreement which contains the 14 possible explanations for why Medicare will deny payment for a service. It will be mailed with the October issue of ISMA REPORTS. The AMA expects to have available by the end of the month the "Medicare Carrier Review: What Every Physician Should Know about 'Medically Unnecessary' Denials."

IN INDIANA...

ISMA officers have completed two Washington visits in the last few weeks which provided an opportunity to discuss issues with Indiana's congressional delegation. Topics included HR 4455, the Medicare reform bill. ISMA is seeking an Indiana cosponsor for the bill.

Other topics: physician office labs, AIDS.

Key point: Congressmen said they are not getting letters from physicians regarding HCFA and Medicare. Congressmen don't feel pressure from constituents to deal with HCFA.

The final triplicate prescription rule has been published in the INDIANA REGISTER. The rule applies to prescriptions written for Schedule II drugs beginning July 1, 1989. If you would like a copy of the rule contact the ISMA Government Relations Department, 1-800-382-1721.

ISMA now has a 24-hour HOTLINE you may call to get a daily update on actions in Congress, the Indiana General Assembly and committee hearings. Pre-recorded Key Contact Alerts will be available also over the Hotline. The number is: 1-800-447-ISMA. The information will be provided by the ISMA Government Relations Staff. If you have questions concerning specific issues, contact the staff via ISMA's regular numbers: 1-800-382-1721 or 317-925-7545.

Indiana Medicare's annual random audit focused on Oncology. This scrutiny determined that some oncologists are charging for supervision of chemotherapy, using the chemotherapy codes, when done as an in-patient or out-patient at the hospital.

Medicare regulations do not allow for supervision of hospital personnel to be billed by a physician because the hospital is already receiving payment for those personnel.

Medicare is currently researching this issue. As of now, according to information from Medicare, a physician may only bill hospital admission, daily rounds and discharge management for an in-patient and only an out-patient visit for out-patient chemotherapy.

The Sunset Committee, a legislative committee that reviews the functions and operations of state agencies, boards and commissions, this year is reviewing the Indiana State Board of Health. Of interest: Whether and how physicians' office labs should be regulated.

The Infectious Waste Advisory Committee has approved a draft of rules dealing with the collection, storage, transport, treatment and disposal of infectious wastes. The draft rules are subject to the approval of the Executive Board of the State Board of Health and then will be subject to the public hearing process.

MEDICAL MUSEUM NOTES

CHARLES A. BONSETT, M.D., Indianapolis



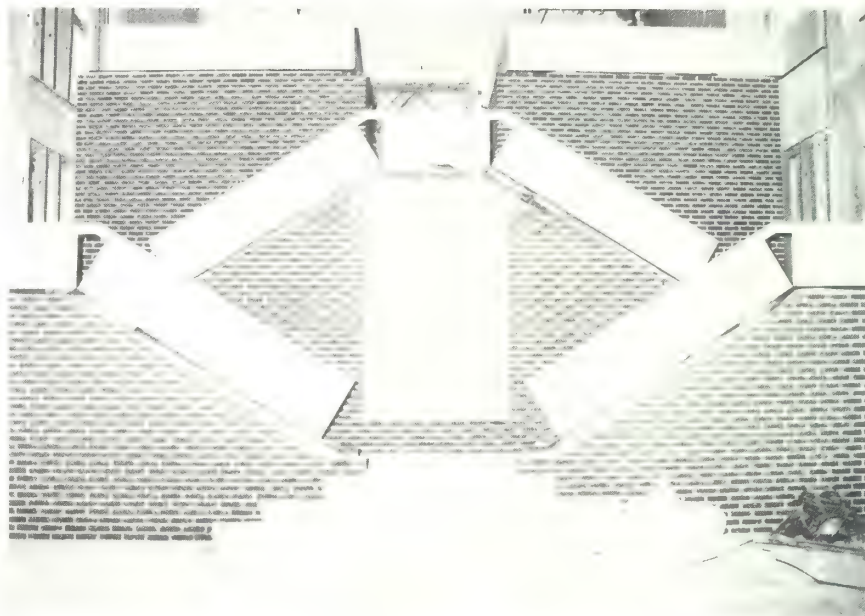
THE PHOTOGRAPH reproduced here was taken recently from inside the main entrance to the new Medical Research Building and Library at the Indiana University School of Medicine.

It shows the space where the Gutzon Borglum life-sized bronze bas-relief plaque of Dr. John Stough Bobbs will be placed and framed with Indiana limestone. The angular panels on either side identify the stairways leading to the library rooms. The panels, which are temporary, will be replaced with glass and bronze.

The Bobbs plaque now has been removed from the Indianapolis-Marion County Central Library on St. Clair Street, where it has been since 1916, and soon will be located permanently in this new location, a place of honor befitting the man who first advocated a quality medical school for the state of Indiana, who worked diligently for its creation, who served as its first dean and who, on his death, provided the legacy to create for the school a library and a teaching clinic. Dr. Bobbs was a remarkable man!

The question might be asked as to why it has taken so long for Bobbs to come home. The school he founded in 1869 (the Indiana Medical College) is the oldest and the biggest of the proprietary medical schools that united with Indiana University in the first decade of the 20th century to form a state-supported medical school. This union was complete and functioning by 1908. The school at that time did not house much of a library. A devastating fire in 1895 destroyed most of the collection, and during the rebuilding of the library, the principal collection was housed in the Indianapolis City Library, which was located nearby in downtown Indianapolis. This provided a satisfactory arrangement that was in place and functioning efficiently in 1908.

Development of the present medical center campus commenced with the



The bronze bas-relief plaque of Dr. John Stough Bobbs soon will be showcased on this wall in the new Medical Research Building and Library nearing completion at the Indiana University School of Medicine. The plaque had been displayed at the Indianapolis-Marion County Central Library.

building of Long Hospital in 1914. The medical school building, now designated as Emerson Hall, did not appear until 1918. Meanwhile, a new city library building had been constructed in downtown Indianapolis in 1916. The new library, a beautiful limestone building of classical design built on land given by James Whitcomb Riley, provided an elegant area for the Bobbs medical library. The entire east wing of the second floor was given over to this purpose, and on the south wall of this wing the John Bobbs Memorial was originally placed and was the principal artistic feature of the room. This was Indiana's only memorial to Bobbs, who performed the world's first gall bladder surgery, and Indiana's only example of the work of Gutzon Borglum, who later would become world famous for his Mount Rushmore memorial.

With the passing of time, a medical library was begun in the basement of Emerson Hall along with rudiments of a medical museum. The library later

was enlarged in a move to the first floor. (The museum items were placed in storage.) Still later, with the erection of the Medical Science Building (1957), the library again was moved and enlarged.

Meanwhile the Bobbs St. Clair Street Medical Library gradually disappeared. Essential books and journals were transferred to the Indiana University School of Medicine library. New book shelves for non-medical subjects were added to the east wing room during the public library's expansion program, and eventually the plaque of Bobbs became completely hidden from view.

It is altogether fitting that Dr. Bobbs (president of the Indiana State Medical Society in 1868) come home to the Indiana University School of Medicine and be identified with the school and its library. He had a significant role with both institutions. It is fitting, too, that the memorial soon again will become accessible to everyone.

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WHAT'S NEW?

The Physicians Association for AIDS Care (PAAC) has filed a position paper with 50 state insurance departments recommending reimbursement for aerosolized pentamidine, a widely used treatment for *Pneumocystis carinii* pneumonia, the leading complication and cause of death in persons infected with the HIV virus.

Western Enterprises has a new catalog featuring industrial/medical compressed gas manifold products. The 20-page catalog presents advanced Accu-Trol manifold systems and equipment for high pressure and cryogenic gas service. Featured are Automatic Changeover Manifolds that allow switching from "service" to "reserve" gas cylinders without interruption of production or lab/hospital work.

Matthew Bender & Co. has announced *Health Care Law: A Practical Guide* by Michael G. Macdonald, Kathryn C. Meyer and Beth Essig. The authors, all attorneys, are, respectively, senior vice-president and counsel at Mount Sinai Medical Center, vice-president for legal affairs at Beth Israel Medical Center, and vice-president and associate general counsel at Mount Sinai Medical Center, all in New York City. The book features a concise discussion of the law, analysis of legal problems health care providers may face, practical guidelines that show physicians how to deal with these problems and what factors to focus on, and citations to major cases. Published in 1985, the cost is \$95. Also available is a looseleaf file that is updated annually.

Immunotech Corp. has announced the release of two new products. The EZ-BEAD Theophylline EIA kit is a new solid phase method that employs an antibody-coated, 1/4-inch bead and a theophylline-enzyme conjugate. The EZ-BEAD T4 EIA kit is a solid phase method that employs a monoclonal antibody coated, 1/4-inch bead and a T-4 enzyme conjugate.

Tech/Ops Landauer, Inc. has introduced a new thermoluminescent dosimetry service, designed to provide reliable, state-of-the-art radiation monitoring. The heart of the service is computerized TLD badge reading. Each badge utilizes three TLD chips to measure beta, gamma and x-ray radiation.

Hoffman-La Roche announces a new glucose monitoring test, RoTAGTM Fructosamine Assay. It produces an accurate answer in 30 minutes. The glycated hemoglobin test commonly has a turnaround time of 24 to 48 hours. The quicker determination permits better determinations about the dose of insulin and the diet levels.

Medical Administration Publications has announced the release of the 1988 *HPCPS Coding Manual*. Often referred to as CPT's companion, this publication contains the entire listing of HPCPS national codes and modifiers. Copies can be ordered from: M.A.P., 671 Executive Drive, Willowbrook, Ill. 60521; phone (312) 654-1666 or 1-800-624-6994. The cost of \$28 includes shipping and handling. Also available is the HPCPS National Codes and Database and Diskette.

Mead Johnson has announced the availability of Isocal HN[®] (High Nitrogen) tube-feeding formula. Isocal HN[®] is the most recent addition to the Isocal[®] complete liquid diet formulas. It is an isotonic, lactose-free, low residue formula. It is specifically designed to meet the needs of those tube-fed patients who require a nutrient-dense, high-nitrogen feeding.

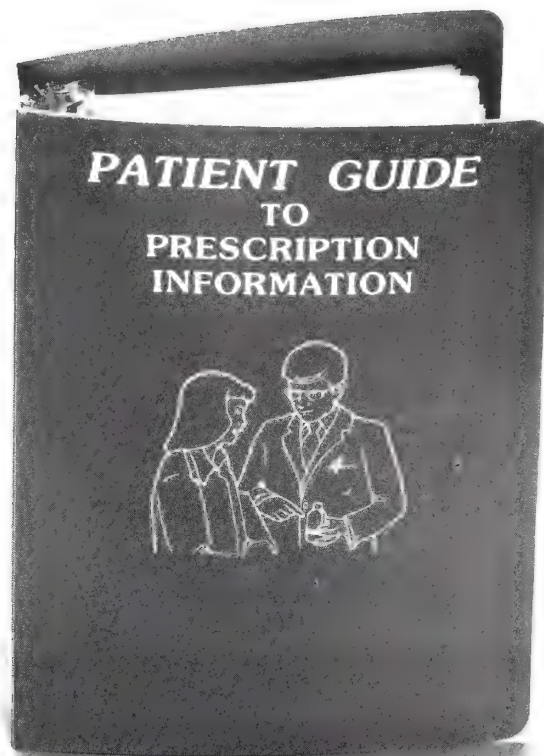
News of what is new in the medical supply industry is composed of abstracts from news releases by book publishers and manufacturers of pharmaceuticals, clinical laboratory supplies, instruments and surgical appliances. Each item is published as news and does not necessarily constitute an endorsement of a product or recommendation for its use by INDIANA MEDICINE or by the Indiana State Medical Association.

The Customedix Corporation has a new inexpensive COV-R-GARD for specimen vials. The closure provides health care workers with improved protection against accidental contamination by AIDS and other viruses. The COV-R-GARD plastic shield is a patented protector designed to minimize any potential contact of testing laboratory personnel with clinical specimens containing AIDS or HIV virus or other hazardous fluids. In use, the COV-R-GARD shield is slipped over the tube stopper until the stopper rests within one of the COV-R-GARD's grooved sections. The stopper then can be easily applied or removed with finger pressure. The shield extends over the top portion of the tube like a hood to capture any splatter as the stopper is inserted or removed.

Upjohn has announced that Cleocin HCl (clindamycin hydrochloride), an antibiotic for serious, sometimes life-threatening infections, is available by prescription in a high-dose oral form—a maroon-colored 300 mg capsule. The new size capsules can achieve blood levels of the antibiotic sufficient to combat serious infections more conveniently than the already-available 75 mg and 150 mg dosages. The 300 mg capsule should encourage better compliance because patients take only three or four capsules per day instead of the larger number of the lower-strength Cleocin capsules.

Abbott Laboratories is introducing a new 1.8 ml size of Abbokinase Open-Cath to supplement the 1 ml size now available. Both products contain 5,000 I.U. per ml of urokinase activity.

Spirometrics, Inc. has announced the fully automated SMI III Spirometer which makes complete pulmonary function screening more affordable. The SMI III has a full 10-liter capacity, offers trouble-free portability and meets ATS, OSHA/NIOSH and Social Security Disability standards. The company also makes the fully-automated FLOWMATE spirometer.



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Indiana University CME

Oct. 15-16: Advanced Trauma Life Support, Tudor Auditorium, Wishard Memorial Hospital, Indianapolis.

Oct. 20: Current Management of Major Problems in Gastroenterology, Reid Memorial Hospital, Richmond.

Oct. 20-21: Third Symposium on Endothelial Seeding, University Place Executive Conference Center and Hotel, Indianapolis.

Nov. 3-4: Garceau-Wray Lectures, Wishard Memorial Hospital, Indianapolis.

Nov. 18-19: Fall Meeting, Indiana Chapter, American College of Surgeons, Embassy Suites North, Indianapolis.

Dec. 2: Geriatric Seminar, Vigo County Public Library, Terre Haute.

Dec. 2-3: Big Four Classic—Rhinoplasty '88, University Place Executive Conference Center and Hotel, Indianapolis.

For further information on these and other CME programs, contact Melody Dian, assistant director, Continuing Medical Education, (317) 274-8353.

ACP Scientific Session

The Indiana Chapter of the American College of Physicians will present its Annual Scientific Session Oct. 28-29 at the Radisson Plaza Hotel, 8787 Keystone Crossing, Indianapolis. Cardiology will be emphasized this year. For information, contact Dr. Richard Dexter, (317) 630-7259.

Diabetes Update

"Diabetes Update 1988," a CME course, will be presented Oct. 28-29 at the Wisconsin Center at Madison. Two speakers, Gerald Reaven, M.D., Stanford University, and John Gerich, M.D., University of Pittsburgh, received awards for excellence in diabetic research from the American Diabetes Association in 1988.

Nine hours credit will be issued for AMA Category I, AAFP elective credit and AOA Category 2-D. Call Cathy Means, (608) 263-6637, for information.

The *Journal of the American Medical Association* publishes a list of CME courses for the United States twice yearly. The January listing features courses offered from March through August; the July listing features courses offered from September through February.

Sleep/Wake Seminar

The Third Annual Community Hospital Sleep/Wake Seminar, "Insomnia: Evaluation and Treatment in Children and Adults," will be held Nov. 11 at the Viscount Hotel in Indianapolis.

This year's seminar will focus on the practical diagnosis and management of common insomnia syndrome with special emphasis on children and the elderly. Recent advances in the pharmacological and behavioral management of insomnia also will be presented.

For information, contact Dr. Marvin E. Vollmer, (317) 352-9255, or Carolyn Roeder, Department of Medical Education, Community Hospitals of Indianapolis, (317) 353-4269.

Neurology

"Neurology for the Non-Neurologist" will be presented Dec. 7-9 at the Ambassador West Hotel in Chicago. For information, contact the Office of Continuing Medical Education, Rush-Presbyterian-St. Luke's Medical Center, 600 S. Paulina, Chicago, Ill. 60612; (312) 942-7095.

Vascular Disease

"Laser and Stent Therapy in Vascular Disease" will be presented at the International Congress II at The Phoenician Resort, Scottsdale, Ariz., Feb. 10-15, 1989.

A call for abstracts has been issued. Abstracts must be received by Nov. 1, 1988, by the Congress Coordinator, Arizona Heart Institute, P.O. Box 10,000, Phoenix, Ariz. 85064. For information call (602) 955-1000.

Methodist Hospital CME

Oct. 17-23: Ultrasound Mini-Fellowship, Methodist Hospital Radiology Department.

Oct. 21-22: Advanced Cardiac Life Support Course, Methodist Hospital, Wile Hall.

Oct. 23: Indiana Radiation Therapy Association Annual Meeting, Methodist Hospital Auditorium.

Oct. 25-26: The First Purdue Conference on Cardiac Assistance with Skeletal Muscle, Purdue University, West Lafayette.

Oct. 27: The 1988 Indiana Sports Medicine Education Seminar, The Shoulder Complex, Viscount Hotel, Indianapolis.

Oct. 28: The Significance of Religion in Clinical Practice, Methodist Hospital Auditorium.

Nov. 2: Annual Lester Bibler Lecture, Methodist Hospital Auditorium.

Nov. 2-3: 7th Annual Methodist Hospital Pediatric Critical Care Symposium: Emergency Department Pediatric Critical Care, Viscount Hotel, Indianapolis.

Nov. 3: Visiting Professorship: Cleft Lip & Palate, Janusz Bardach, M.D., University of Iowa.

Nov. 11: Neuro-Ophthalmology and Orbital Surgery Update, Hilton on the Circle, Indianapolis.

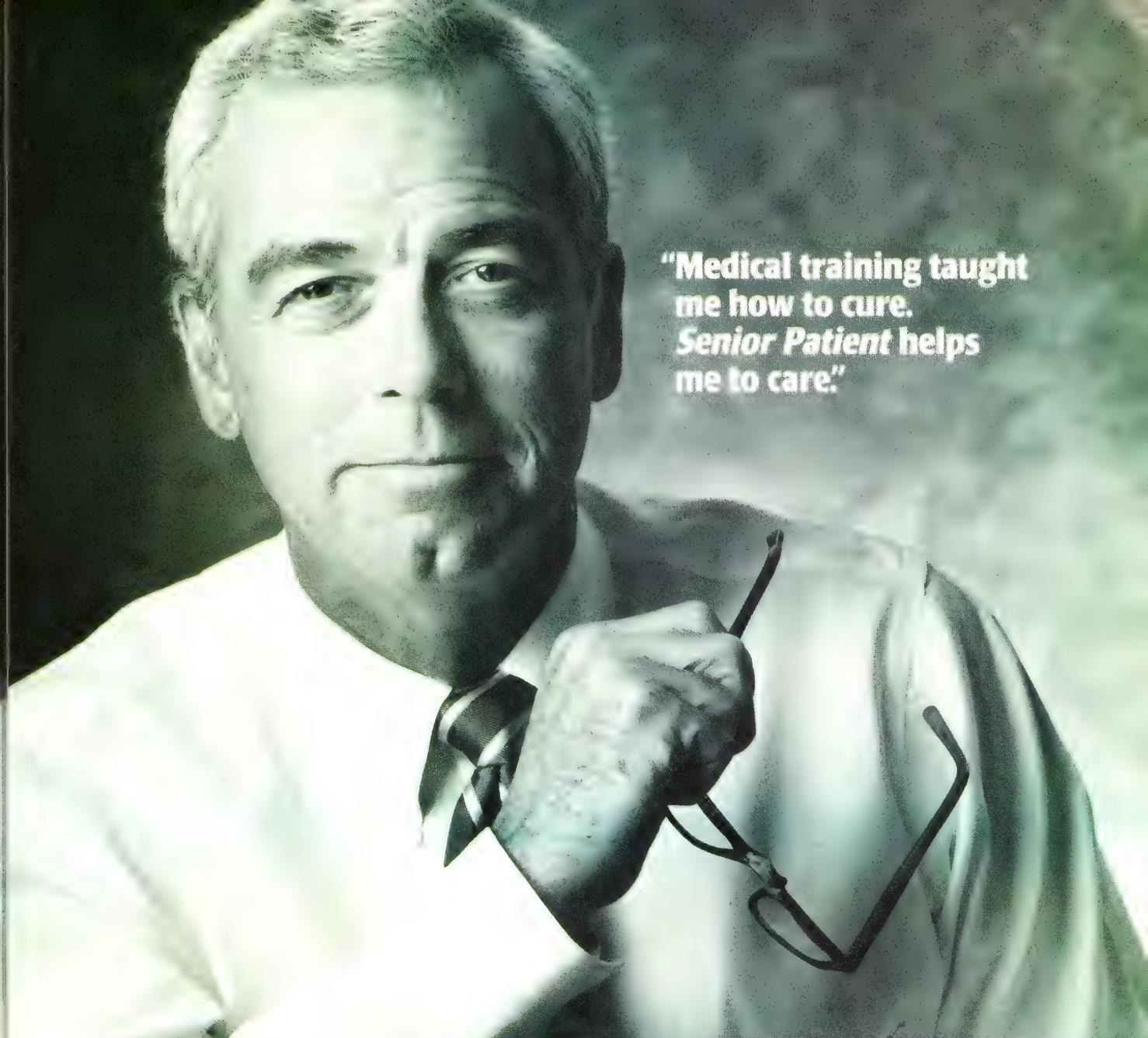
Nov. 11 and 12: Advanced Trauma Life Support Course, Methodist Hospital Auditorium.

Nov. 16: 7th Annual Symposium on Ethical and Moral Issues: Rationing Dilemmas—The 21st Century, Hyatt Regency Hotel. Co-sponsor, St. Vincent Hospital.

For more information, call Dixie Estridge, Coordinator, Continuing Medical Education, Methodist Hospital of Indiana, (317) 929-3733.

Trauma Symposium

The 36th Annual Detroit Trauma Symposium will be held Nov. 11-12 at Wayne State University, Harper Hospital. For information contact Marjorie Norum, Department of Surgery, Harper Hospital, 3990 John R, Detroit, Mich. 48201—(313) 745-2345.



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To obtain Category 1 credit for this month's article, complete the quiz on page 900.



Current Management of Congenital Heart Disease in Patients with Down's Syndrome

G. THOMAS ALBRECHT, M.D.
ROGER A. HURWITZ, M.D.

THE ASSOCIATION of congenital heart disease and Down's syndrome has been recognized for nearly 100 years. Before advances in surgery, these defects invariably led to early death. Recent medical and surgical therapy, coupled with a more vigorous approach toward patients with mental and physical handicaps, mandates that physicians who care for these children familiarize themselves with the current standard of diagnosis and treatment. In this article we will review clinical evaluation, non-invasive and invasive diagnostic studies, and current surgical options.

Down's syndrome (Trisomy 21) occurs in approximately one in 800 live births, making it the most common of all chromosomal abnormalities. The incidence of congenital heart disease in these patients is approximately 40% overall, but 62% in children requiring

hospitalization.^{1,2} The predominant lesions are those involving malformation of the endocardial cushion (complete, partial or transitional AV canal) or the ventricular septum, although a wide variety of lesions has been reported.^{1,4} A 1961 prospective study showed the incidence of these two lesions to be about equal (36% EDC and 33% VSD), but chart review³ and autopsy studies⁴ reveal a higher incidence of cushion defects.

Other lesions are found less often; atrial septal defect (ASD) of the secundum variety, tetralogy of Fallot, and isolated patent ductus arteriosus (PDA) are present in about 10% of patients. Approximately one-third of patients with Down's syndrome and congenital heart disease have multiple cardiac defects.⁵ The most common associated defects are PDA and pulmonary stenosis. One autopsy

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report found the coexistence of a PDA in 47% of patients who had other cardiac lesions.⁴

Mortality and morbidity are very high without treatment. A 1979 study reported a 96% five-year mortality without treatment for those children with complete AV canal,⁶ although other studies suggest a five-year mortality rate of 50-60%. Of all patients with both Down's syndrome and congenital heart disease seen at Children's Hospital in Boston between 1962 and 1973, 33% died within those years. Of those symptomatic patients who presented in infancy, more than 50% died.²

Several authors have reported that children with Down's syndrome and a left-to-right shunt with increased pulmonary blood flow are more susceptible to development of pulmonary vascular obstructive disease and pulmonary hypertension than genetically normal children of similar age with similar cardiac lesions.^{7,9} Chi and Krovetz compared 69 children with Down's syndrome to age-matched controls with similar cardiac lesions and found 90% of the children with Down's syndrome had an elevated pulmonary vascular resistance, whereas only 25% of the controls had a similar elevation. In addition, nine of 11 children with Down's syndrome and ASD had pulmonary hypertension, whereas only five of 55 otherwise normal children with ASD had pulmonary hypertension. However, this greater propensity to develop pulmonary hypertension has been challenged recently by autopsy studies.^{8,10}

The largest number of patients with Down's syndrome and congestive heart failure will present with some form of endocardial cushion defect. If the endocardial cushions do not fuse, the atrioventricular valves (tricuspid and mitral) cannot properly develop. In addition, the lower portion of the interatrial septum and the upper portion of the intraventricular septum will be deficient and unable to meet with the endocardial cushions. This large cen-

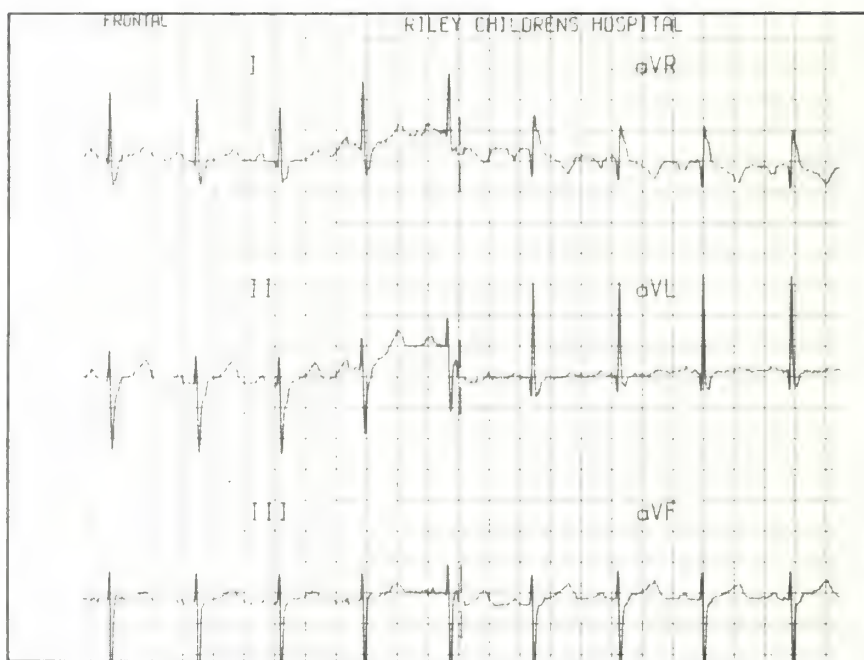


FIGURE 1: Note the superior axis, prominent "p" wave in lead II and widened and increased QRS characteristic of ventricular overload and hypertrophy.



FIGURE 2: Chest x-ray of child with complete AV canal showing significant cardiomegaly and increased pulmonary vascularity.

tral hole and free communication among all four chambers produce the complete form of an endocardial cushion defect.

Partial AV canal or ASD primum is present in only a small number of Down's syndrome patients. In one autopsy study of 49 patients with endocardial cushion defects, there were 39 with complete AV canal and 19 of those had Down's syndrome. None of the 10 ASD primum patients had Down's syndrome.

The transitional or intermediate AV canal has partial fusion of the endocardial cushions, yielding variable abnormalities of the atrioventricular valves and atrial and ventricular septal defects of varying sizes. The ventricular septal defect is not as large as that of the complete form because of the existence of a bridge of tissue that extends between the anterior and posterior AV valve leaflets.

Clinical Presentation: AV Canal

The clinical manifestations of complete AV canal present in infancy when the pulmonary arterial resistance falls. This drop in resistance may occur from the second to third week of life and allows development of the usually large left-to-right shunt. Symptoms may include poor feeding, poor growth, dyspnea, easy fatigability and diaphoresis. The cardiovascular exam in the newborn period may be entirely normal. However, more often, there will be prominence of the left precordium and a hyperactive cardiac impulse at both the xiphoid and apical regions, even if a murmur is not present. If pulmonary hypertension is present, the second heart sound will be accentuated. The systolic murmur, usually along the left sternal border, is often ejection in nature. An apical systolic murmur may be present if there is significant mitral insufficiency or left ventricular to right atrial shunting. The presence of a low pitched, early to mid diastolic murmur over the xiphoid area suggests a large shunt.

A mean frontal electrical axis



FIGURE 3: 2-D echo from subxyphoid position in child with complete AV canal. Note large atrial and ventricular septal defects as well as common atrioventricular valve.

superior to 0 degrees (left axis deviation) is present in 95% of patients (*Fig. 1*). Those with the complete form of AV canal frequently have an axis in the "northwest quadrant." Atrial hypertrophy is present in approximately 60% of patients, and a prolonged P-R interval is present in half. Presence of right ventricular or left ventricular hypertrophy will most likely depend on the degree of pulmonary artery hypertension and the degree of left-to-right shunt or mitral regurgitation. Chest x-ray reveals cardiomegaly with enlargement of the atria and left ventricle (*Fig. 2*). Dilatation of the main pulmonary artery segment and increased pulmonary vascular markings occur with large left-to-right shunts. Two-dimensional echocardiograms reveal the size and location of the atrial and ventricular septal defects, and define mitral and tricuspid valve morphology (*Fig. 3*). Associated defects such as multiple atrial or ventricular septal defects, double mitral orifice and left ven-

tricular papillary muscle abnormalities (parachute mitral valve) also can be detected. Cardiac catheterization is used primarily to assess the hemodynamic status, namely to quantify left-to-right shunts, determine pulmonary artery pressures and resistance, and detect associated malformations (*Fig. 4*).

The transitional AV canal presents in a similar fashion to the complete form, primarily with evidence of congestive heart failure secondary to left-to-right shunting. The partial AV canal or ASD primum also presents with evidence of a large left-to-right shunt. In distinction to the complete AV canal, the second heart sound in these patients will be fixed. The intensity of this sound is related to the degree of pulmonary hypertension.

Clinical Presentation: VSD

The clinical presentation of an isolated ventricular septal defect (VSD) is directly related to its size. The ma-

jority of VSDs are large,³ and associated with large left-to-right shunts and pulmonary artery hypertension. The presenting clinical features are thus similar to those of complete AV canal. The EKG is helpful in distinguishing between the two lesions because patients with isolated VSD (non-endocardial cushion type) usually have a normal or rightward QRS axis (0-180 degrees). The 2-D echo can distinguish these two lesions and detect associated malformations. All other forms of congenital heart disease, except transposition of the great arteries, have been reported in children with Down's syndrome.

Pulmonary Hypertension

Children with Down's syndrome are reported to have a propensity to develop pulmonary hypertension and pulmonary vascular obstructive disease. Upper airway obstruction secondary to midfacial hypoplasia may play a role in this problem, since it may produce alveolar hypoventilation, hypoxemia and hypercapnia, all of which result in either chronically or acutely elevated pulmonary artery pressure and resistance. Studies also have shown the lung parenchyma to be abnormal. There appears to be a decreased number of alveoli, as well as decreased alveolar surface area. There also appears to be less muscular hypertrophy than expected in pulmonary arteries of patients with Down's syndrome and large left-to-right shunts, suggesting a qualitative pulmonary arterial abnormality that may fail to protect lung parenchyma from the damaging effects of high flow and pressure.^{10,11,12}

Pulmonary infections secondary to an increased incidence of gastroesophageal reflux and aspiration, and abnormalities of T and B lymphocytic function,^{13,14} may aggravate existing symptoms of pulmonary congestion and ultimately play a role in the development and propagation of pulmonary artery hypertension and pulmonary vascular disease.



FIGURE 1: Left ventricular angiography in complete AV canal showing characteristic "goose-neck" deformity of left ventricular outflow tract.

Clinical findings that suggest pulmonary artery hypertension include a prominent right ventricular impulse, increased intensity of the second heart sound, decreased intensity of systolic murmurs, disappearance of a previously auscultated diastolic rumble, and improvement in signs and symptoms of congestive heart failure. Clinical signs

of severe pulmonary vascular obstructive disease (Eisenmenger's physiology) also include right-to-left shunting (cyanosis), auscultation of a pulmonary insufficiency (Graham-Steele) murmur and palpable pulmonary valve closure on the anterior chest wall. This constellation of symptoms and signs has been reported to occur

in children with Down's syndrome as early as one year of age, thus illustrating the necessity for early cardiac evaluation.

EKG shows right ventricular hypertrophy in all patients with pulmonary hypertension, but is not a predictor of its severity. Although there are now methods to estimate the degree of pulmonary hypertension using 2-D echo-Doppler, the sensitivity of these methods is not ideal. The chest x-ray in patients with severe pulmonary hypertension may demonstrate a dilated main pulmonary artery segment and a disorganized "pruning" pattern of pulmonary blood flow.

Detection and Management

The early management of these children is the responsibility of the primary care physician. Any patient suspected of having Down's syndrome should have chromosomal studies. If Trisomy 21 is documented, cardiovascular evaluation should be undertaken. Though the physical exam may be nearly or totally normal in infancy, significant intracardiac defects may exist.

The EKG and 2-D echo, two relatively inexpensive and risk-free tests, are sufficient to rule out significant congenital heart disease. If heart disease is discovered, it is never too early to refer the patient to a pediatric cardiologist for further diagnosis and possible treatment. The medical management of congestive heart failure has changed little over the last years. The two primary medications remain digitalis and diuretics. Occasionally, for refractory cases, a vasodilator (hydralazine) or an ACE inhibitor (captopril) will be added.

Cardiac catheterization is necessary to assess pulmonary arterial pressure and resistance. If these are elevated, the response to oxygen or tolazoline may help in determining whether these derangements are "fixed," or whether the vascular bed still exhibits reactivity and may return to normal after corrective surgery.

Surgical Management

Medically managed, there is a high incidence of morbidity and mortality even under one year of age. One possible palliative measure is pulmonary artery banding. For the severely compromised infant, this procedure has definite advantages over the open, corrective repair: first, it is a much simpler procedure and does not require use of the heart-lung machine; secondly, in the questionably infected child, no prosthetic material is inserted in the heart, thus greatly eliminating the possibility of graft infection. The associated morbidity secondary to banding may be quite high, especially if there is significant AV valve regurgitation or left ventricular to right atrial shunting prior to surgery. These conditions may actually lead to a worsening of hemodynamics after banding, with progressive cyanosis (secondary to increased right-to-left shunting) or acceleration of a pre-existing sub-aortic gradient leading to decreased left ventricular output.

Today, except in extremely ill infants or those with complex lesions, surgical correction rather than pulmonary artery banding is the therapy of choice. This has been made possible by improved myocardial preservation techniques using cardiopulmonary bypass, deep hypothermia and cardioplegia, even in infants as young as one month.^{15,16} Surgical mortality remains high, with reported rates between 10-30%. It must be remembered that less than 20 years ago this mortality rate was approximately 100%. Postoperative hemodynamic complications include mitral insufficiency (60-80%), which can be severe enough to necessitate valve replacement, small residual left-to-right shunts (usually not requiring surgery), and residual pulmonary hypertension.

Although the child or adolescent with pulmonary vascular obstructive disease may be inoperable, symptoms secondary to right ventricular failure, cyanosis and polycythemia may be

severe and warrant medical management. Erythrophoresis, home oxygen and restricted activity may decrease symptoms of chest pain, headache, respiratory compromise and syncope. However, early diagnosis and surgical treatment should significantly alter the development of the dreaded complication of pulmonary hypertension.

Summary

Although children with Down's syndrome have many potentially lethal problems (i.e., intestinal obstruction, leukemia and compromised immune function), cardiovascular malformations comprise the majority of life-threatening illnesses. Five percent of all children who die of congenital heart disease, as well as 8% of all newborns with congenital heart disease, have Down's syndrome.²

Present operative studies suggest a 75% survival following surgical repair of endocardial cushion defect. A review of our results at Indiana University from 1968 to 1987 reveals 224 patients having procedures to repair AV canal. Of these patients, half were found to have Down's syndrome. The surgical survival rate for these patients was 83%. The survival for isolated ventricular septal or atrial septal defect is significantly higher.

Following successful surgery, an improvement in signs and symptoms of congestive failure can be expected. Growth will improve, although children with Down's syndrome are shorter and lighter than age-matched normals. Special growth charts are available to better assess normal growth for these children.

Recent studies illustrate the major issues of the cardiovascular history in Down's syndrome patients. In a group of 71 children with Down's syndrome who had no evidence of heart disease on physical examination by one month of age, seven (10%) had significant anomalies proven by echocardiography or catheterization.¹⁷ In a review of 36 patients with complete AV canal (28 with Down's syndrome, eight without

Down's syndrome), 26 patients were referred for surgery before one year of age, and 25 had pulmonary pressures acceptable for open heart repair. Of the 10 referred after one year of age, five had fixed pulmonary vascular disease and were not eligible for open repair, thus emphasizing the necessity for early referral.¹⁸

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Summary.

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Indication: Lower respiratory infections, including pneumonia, caused by *Streptococcus pneumoniae*, *Haemophilus influenzae*, and *Streptococcus pyogenes* (group A β -hemolytic streptococci).

Contraindication: Known allergy to cephalosporins.

Warnings: CECLOR SHOULD BE ADMINISTERED WITH CAUTION TO PENICILLIN-SENSITIVE PATIENTS. PENICILLINS AND CEPHALOSPORINS SHOW PARTIAL CROSS ALLERGENICITY. POSSIBLE REACTIONS INCLUDE ANAPHYLAXIS.

Administer cautiously to allergic patients.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

Precautions

- Discontinue Ceclor in the event of allergic reactions to it.
- Prolonged use may result in overgrowth of nonsusceptible organisms.

- Positive direct Coombs' tests have been reported during treatment with cefaclor.

- Ceclor should be administered with caution in the presence of markedly impaired renal function. Although dosage adjustments in

moderate to severe renal impairment are usually not required, careful clinical observation and laboratory studies should be made.

- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

Adverse Reactions: (percentage of patients)

Therapy-related adverse reactions are uncommon. Those reported include:

- Gastrointestinal (mostly diarrhea): 2.5%
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- Hypersensitivity reactions (including morbilliform eruptions, pruritus, urticaria, and serum-sickness-like reactions that have included erythema multiforme [rarely, Stevens-Johnson syndrome] and toxic epidermal necrolysis or the above skin manifestations accompanied by arthritis/arthralgia, and frequently, fever): 1.5%. usually subside within a few days after cessation of therapy. Serum-sickness-like reactions have been reported more frequently in children than in adults and have usually occurred during or following a second course of therapy with Ceclor. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

- Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.
- As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.
- Rarely, reversible hyperactivity, nervousness, insomnia, confusion, hypotonia, dizziness, and somnolence have been reported.
- Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1%, and, rarely, thrombocytopenia.

Abnormalities in laboratory results of uncertain etiology

- Slight elevations in hepatic enzymes.
- Transient fluctuations in leukocyte count (especially in infants and children).
- Abnormal urinalysis, elevations in BUN or serum creatinine.
- Positive direct Coombs' test.
- False-positive tests for urinary glucose with Benedict's or Fehling's solution and Clinistest[®] tablets but not with Tes-Tape[®] (glucose enzymatic test strip, Lilly).

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Temperature as a Predictive Criterion for Myocardial Infarction

G.S. MITCHELL, R.N., M.S.N.
MICHAEL E. PAUSZEK, M.D.

THE CARE OF PATIENTS with myocardial infarction has evolved with the availability of coronary care units and their potential for treatment of life-threatening dysrhythmias. This potential for the treatment of fatal complications has resulted in a higher index of suspicion for myocardial infarction. Yet, myocardial infarction occasionally remains a difficult diagnosis at the time of patient presentation. The majority of patients admitted with that suspected diagnosis ultimately evolve no confirmatory evidence.

Predictive criteria for myocardial infarction have been delineated to improve the accuracy of diagnosis and judicious use of critical care beds.^{1,2} Useful predictors include electrocardiographic abnormalities (new Q wave, hyperacute ST changes), diaphoresis with chest pain, and a prior history of myocardial infarction. The physical examination has in the past demonstrated no value in the decision process regarding admission for infarction but has been useful in excluding other diagnostic possibilities.^{2,3}

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This study was supported in part by the Johnson County Health Foundation.

Abstract

In a prospective study performed comparing infarction with and without pulmonary edema, unstable angina and non-cardiac chest pain, a lowered temperature on presentation was found to be a significant predictive criterion for the presence of infarction. On presentation, the infarction group had 82% incidence of temperature less than or equal to 97.4 degrees (36.3 degrees centigrade) oral and 75% in

cidence of diagnostic electrocardiographic changes. 96% of patients with infarction were delineated on presentation using the criteria of diagnostic electrocardiographic change or temperature of less than or equal to 97.4 degrees F. The lowering of temperature appears to be a direct response to the tissue injury associated with infarction and is unassociated with tachypnea, pulmonary edema and chest pain.

The value to the clinician of these previously described predictive criteria is as measures or tools that can be used in the emergency setting to aid in patient evaluation and the clinical decision process. Even with the predictive criteria, physician judgment remains more sensitive than the predictors delineated to date for the diagnosis of myocardial infarction.² As in all other areas of medicine, the patient with a non-typical symptom complex upon presentation poses a major diagnostic dilemma. Any predictive criterion that is separate from electrocardiographic abnormalities or the typical history would therefore prove valuable in the emergent patient evaluation.

In 1954 Olof Forssman, in his review of the clinical aspects of myocardial infarction, described the course of his patients' temperature.⁴ His interest was in the incidence of fever but he observed, in addition, "that in many cases the temperature recorded on the first day was below normal."⁴ Retrospective review of all admissions to the critical care area of Johnson County Memorial Hospital in 1984 and 1985 for

chest pain (297 patients) and myocardial infarction (152 patients) was performed to assess the incidence of complications of infarction.

During the review, as in the Forssman study, it was notable that patients admitted with subsequently confirmed infarction appeared to have lower admission temperatures than the comparison group with chest pain and no infarction. To test the validity of this observation and to assess its predictive value, a prospective study was designed.

Background

In the initial retrospective review of all critical care area patients, multiple observations were made. In 99 of 152 (65%) patients with infarction, electrocardiogram on admission revealed hyperacute ST-T wave changes. Thirty-five percent were nondiagnostic or could not be interpreted as compatible with acute infarction because of an underlying conduction defect. In 1984 and 1985 no organized effort had been made to record temperatures immediately upon presentation. In fact, frequently the first measured tempera-

ture was upon transfer to the critical care area after emergency room evaluation. Despite this flaw, a trend toward lower admission temperatures was noted in the group with eventually confirmed infarction when compared to all others with chest pain but no evolved evidence of infarction.

In this retrospective review, no attempt was made to separate patients with unstable angina from those with other non-cardiac chest pain. Utilizing this study's measured temperature as a basis, an oral temperature of 97.4 degrees F (36.3 degrees centigrade) appeared to provide a reasonable level for discrimination between myocardial infarction and chest pain without infarction (including unstable angina). In this initial retrospective review with all its attendant limitations, 68 of 152 (44.7%) patients with infarction and 91 of 298 (30%) with chest pain without infarction had an oral temperature of less than or equal to 97.4 degrees F.

The mechanism by which infarction would induce a lowering of oral temperature on presentation was not clear. Complications such as tachypnea, pulmonary edema and vasoconstriction secondary to pain were considered possibilities. If any of these factors were significant in lowering of temperature, then by dividing patients into multiple subsets depending upon their symptoms and signs and their ultimate diagnoses, the cause of a lower temperature might be apparent. Such an approach was chosen.

Study

All patients presenting to the emergency room or admitted directly to the critical care unit or telemetry unit at Johnson County Memorial Hospital from October 1985 through February 1986 were eligible for inclusion in this study. The patients were initially assessed on presentation by the emergency room physician, the patient's own attending physician, or consultant at the request of the patient's attending physician. All patients' vital signs were immediately measured

DIAGNOSTIC GROUP	PATIENTS	AGE RANGE	MEDIAN RANGE
1. Myocardial infarction	19	46-89	67
2. Myocardial infarction with pulmonary edema	9	62-103	75
3. Chest pain	15	42-87	64
4. Unstable angina	22	40-88	70
5. Pulmonary edema without infarction	15	57-86	75

upon presentation. An oral temperature was measured and recorded using an electronic thermometer. The oral route for temperature measurement was chosen for both convenience and easy reproducibility. All patients' courses were followed prospectively and the data were interpreted by a single investigator (M.E.P.). Five specific patient groups were eventually delineated and evaluated. By the end of their admissions, patients were divided into groups based upon diagnoses as follows: (1) myocardial infarction; (2) myocardial infarction with pulmonary edema on presentation; (3) chest pain without evidence of myocardial ischemia; (4) unstable angina; (5) pulmonary edema without infarction.

Supplemental studies were conducted as deemed appropriate by the attending or consulting physician; these included treadmill exercise testing, echocardiography, gastrointestinal studies and cardiac catheterization. A consulting radiologist, without evidence of the individual patient's laboratory data or course, interpreted all roentgenographic studies. For purposes of this study, the diagnosis of pulmonary edema required roentgenographic confirmation by the consulting radiologist. The diagnosis of myocardial infarction was dependent upon an elevated total creatinine phosphokinase with an elevated MB fraction and/or evolution of Q waves on electrocardiogram. A presentation electrocardiogram was considered diagnostic if hyperacute ST-T wave changes were present upon

presentation. At no time during this study was patient care altered, attending physician influenced, or patient care delayed by this study.

Result

In the retrospective review, the course of 449 patients was evaluated for an average of 19 patients per month. The subsequent prospective study was performed over a four-month period and included a total of 80 patients for an average patient enrollment of 20 per month. *Table 1* delineates the age range, median age and patient numbers for each delineated grouping.

The early retrospective review had suggested a temperature of 97.4 degrees F (36.3 degrees centigrade) as significant. Using this value as a predictor, results for each of the groups along with the group mean temperature value are displayed in *Table 2*.

The mean temperature of the first two groups was significantly less than 97.4 degrees (one sample t test p value less than .05), the chest pain and pulmonary edema group's mean temperature was significantly higher than 97.4 degrees (one sample t test p value 0.05). The mean temperature for the chest pain, unstable angina and pulmonary edema groups was found to be significantly different from the myocardial infarction groups (ANOVA test—the Turkey-HSD procedure).

In the prospective study, 21 of 28 (75%) patients with infarction had diagnostic electrocardiographic changes (hyperacute ST-T wave

changes or Q waves) on admission. In seven of the 28 (25%) the electrocardiogram was not specific or was uninterpretable for infarction. Of the group with infarction but without diagnostic electrocardiographic changes on presentation, six of the seven patients (86%) had a temperature of 97.4 degrees or less on presentation. The sensitivity of a temperature less than or equal to 97.4 degrees F on presentation was 82%, with specificity of 71%. The sensitivity of combining diagnostic electrocardiographic changes with a presentation temperature of less than or equal to 97.4 degrees was 96% (27 of 28 patients). If those patients with diagnostic electrocardiographic changes on presentation were eliminated and in the remaining patients only the criterion of a low presentation temperature was considered, then six of 28 patients, or 24%, still represented patients with acute myocardial infarction.

If, on presentation with chest pain, pulmonary edema or symptoms suggestive of myocardial infarction, neither decrease in temperature nor diagnostic electrocardiographic changes were present, then in this series the incidence of infarction was only one of 28 patients, or 3.5%.

Discussion

Much of what is written about emergency evaluation of patients for myocardial infarction attempts to delineate or calculate a probability of infarction. However, it is not the patient with typical electrocardiographic changes, diaphoresis and a prior history of myocardial infarction who presents a decision problem. Rather, it is the patient with new dyspnea, pulmonary edema, or an uninterpretable electrocardiogram who presents with chest pain. Information easily obtained and remembered can be easily applied. Temperature upon presentation appears to be yet another useful tool in the acute or emergent evaluation of patients for myocardial

TABLE 2		
DIAGNOSTIC GROUP	PATIENTS WITH TEMPERATURE LESS THAN OR EQUAL TO 97.4° (%)	MEAN PRESENTATION TEMPERATURE
1. Myocardial infarction	15 (79%)	96.7°
2. Myocardial infarction with pulmonary edema	8 (89%)	96.9°
3. Chest pain	4 (27%)	97.9°
4. Unstable angina	8 (36%)	97.8°
5. Pulmonary edema without infarction	3 (20%)	98.3°

infarction and is the only predictive criterion that can be obtained from the patient examination.

The cause of lowering of temperature on presentation with myocardial infarction remains unknown. Fever has long been recognized as a sign of infarction but is not present at the time of initial evaluation and is rarely present in the initial 24 hours following admission.⁵ From the design of this study, it is clear that angina or myocardial ischemia, pulmonary edema, diaphoresis, tachypnea and chest discomfort, which were present in one or all the non-infarction groups, were not associated with a significant incidence of lower temperature on presentation.

In a study published in 1954, Olof Forssman reviewed the clinical aspects of infarction including the temperature curve and was unable to define a relationship between temperature, infarction and any underlying hormonal change.⁴ He referred to an earlier publication by Han Selye entitled *The General Adaptation Syndrome and Diseases of Adaptation*, published in 1946.⁶ In that paper, Dr. Selye related the lowering of body temperature and tissue damage caused by trauma, burn and shock-producing agents. His conclusion was that "the body temperature decreases during shock phase of the alarm reaction." The lowering of temperature in infarction probably represents a response to the tissue injury and is not related directly

to any other variable or criterion in infarction.

Conclusion

A temperature less than or equal to 97.4 degrees F (36.3 degrees centigrade) at presentation with chest pain or other symptoms suggestive of infarction represents yet another predictive criterion for the presence of infarction and is the only criterion elicitable from patient examination.

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The Undertreatment of Pain

Why Some Patients Are Left to Suffer from Unrelieved Pain

WAYNE O. EVANS, Ph.D.
Indianapolis

INADEQUATELY CONTROLLED pain can contribute to a patient's pathophysiology.

"Unfortunately, it is not generally appreciated that acute pain in the postoperative period or after accidental injury (including burns) serves no useful function and, if not adequately relieved, such pain can produce serious abnormal physiologic reactions that may cause death."¹

"Severe pain that is not properly treated intensifies reflex responses, which become abnormal and cause serious complications such as pulmonary, intestinal and/or urinary problems, thromboembolism, altered muscle metabolism, increased load on the heart and general circulation, increased oxygen consumption, or postoperative emotional problems."¹

To allow a patient to suffer unnecessary pain does harm to the patient—a violation of the first ethical principle of medicine. Yet, evidence indicates that unrelieved pain is common in medical settings.

In their classic 1973 study, Marks and Sachar interviewed medical inpatients being treated with narcotics for pain.² They found that 32% continued to experience severe pain and that

another 41% were in moderate distress.

In 1980 Cohen reported on a study of 109 postoperative patients.³ The results indicated that 75.2% of these patients were in moderate or marked pain distress.

In 1983 Beyer, *et al* studied postoperative narcotic administration for 50 children and compared them with 50 adults with a similar surgery.⁴ The children were prescribed significantly less narcotics. The children received 30% of all possible analgesic administrations while the adults received 70%.

Also in 1983, Mather and Mackie surveyed the incidence of pain in 170 children recovering from surgery.⁵ They found that 75% of the children had pain and 13% had severe pain.

Sriwatanakul, *et al* reported in 1983 on a survey of post surgical patients.⁶ They found 41% complained of moderate to severe pain.

The United States is not alone in allowing hospitalized patients to suffer. In 1986, Roughneen, *et al* reported from Glasgow, Scotland, on a pain survey of 51 patients before and after abdominal surgery.⁷ They concluded that acute abdominal pain is often untreated. Even though patients were all experiencing considerable pain, only about half received analgesics.

Two studies by Donovan, *et al* in 1987 demonstrate that there has been no improvement in the last 14 years since the report of Marks and Sachar.⁸ Of 454 patients, 78% experienced pain during hospitalization. Of these, 58% experienced excruciating pain. Fewer than half of the patients with pain had

a member of the health care team ask them about their pain or note the pain in the medical record.

Donovan and Dillon interviewed 96 randomly selected hospitalized cancer patients.⁹ More than half reported pain that was horrible or excruciating.

If we accept the premise that a major function of the health care team is to reduce suffering, it is difficult to understand why so many patients are left with unrelieved pain. Morgan has referred to "American opiophobia: a customary under-utilization of opioid analgesics."¹⁰ He and others have found that both physicians and nurses have an inadequate understanding of the pharmacology of opioid analgesics and are influenced by a number of inappropriate biases.^{2,7,11-14} The factors contributing to the pain problem have been systematically examined for cancer pain by the Wisconsin Cancer Pain Initiative.¹⁵ The same factors are responsible for the undertreatment of pain from other causes. These factors include:¹⁵

Health Professionals

- Lack of understanding of the pathophysiology of cancer pain.
- Lack of knowledge of the clinical pharmacology of narcotic analgesics.
- Lack of knowledge of new methods of pain relief, including the use of adjunct drugs and neurosurgical procedures.
- Insufficient professional education in cancer pain therapy.
- Lack of knowledge of the difference between physical dependence and addiction.
- Excessive concern about the side

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effects of narcotic analgesics.

- The belief that patients are not good judges of the severity of their pain.
- Assignment of low priority to pain management.
- Lack of thorough and frequent re-evaluation of patients' pain status.
- The difficult and frustrating nature of certain pain management problems.

Patients and Family Members

- Lack of awareness that cancer pain can be managed with the result that patients may suffer in silence.
- Fear that use of narcotic analgesics will lead to addiction.
- Fear that use of narcotic analgesics will lead to mental confusion, disorientation, personality change.
- Failure to report pain because of the desire to be "good patients" and not distract the physician from the primary task of treating the disease.
- Under-reporting of pain because increasing pain suggests the disease is progressing.

The Health Care System

- Lack of accountability for pain management because hospitals operate on an acute, disease-oriented model.
- Lack of coordination of care as patients are moved from one setting to another, e.g., from hospital to nursing home.
- Fragmentation of care because treatment of cancer has become highly specialized. It is not uncommon for a

patient to consult with from three to 15 different specialists. These consultations result in multiple sources of information and opinions for patients and families.

- Unwillingness of pharmacies in large cities to stock narcotics because of the risk of theft. In less urban areas, resources for pain-relieving neurosurgical and neurolytic procedures are not available.

The problem is of such importance that the National Institutes of Health have produced a Consensus Development Conference Statement detailing the problem and approaches to its solution.¹⁶ However, the problem will only be solved when individuals and institutions critically examine their own practices.

"We must all die. But that I can save (a person) from days of torture, that is what I feel as my great and ever new privilege. Pain is a more terrible lord of mankind than even death himself."—Albert Schweitzer

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Recent Indiana Court Rulings

Nutritionist Barred From Practicing Medicine

A trial court properly barred a nutritionist from engaging in the unlicensed practice of medicine, an Indiana appellate court ruled. During a visit by an undercover investigator, the nutritionist elicited information using questionnaires and examination of the investigator's eyes. Based upon the information obtained, the nutritionist determined that the investigator had nutritional problems, abdominal problems, a slow electrical turnover, and poor circulation. To remedy those problems, the nutritionist suggested a colonic irrigation, mineral water, kelp, amelade, progesterone, and more raw food. On remand, a trial court granted an injunction, and the appellate court affirmed. The injunction prohibiting the nutritionist from the unauthorized practice of medicine while permitting her to lecture in public and to engage in dialogue on the subject of nutrition was appropriate, the court said.—*Stetina v. State of Indiana ex rel. Medical Licensing Board of Indiana*, 513 N.E.2d 1234 (Ind. Ct. of App., Oct. 6, 1987)—*Courtesy of The Citation, May 1, 1988*.

Orthodontist Entitled to Amount Due to Him

An orthodontist was entitled to collect the entire amount due on a contract for orthodontic services rendered, an Indiana appellate court ruled.

In June 1980, after preliminary consultation and examination, the parties agreed upon a fee of \$1,690 for orthodontic services to be performed on a 15-year-old patient. The orthodontist estimated active treatment would be completed in 24 months. In fact, active treatment lasted 41 months and was completed in December 1983, at which time the braces were removed.

When the patient graduated from high school in May 1983, she enrolled at a university, and the orthodontist continued to treat her. In order to accommodate his working schedule, the patient missed a few classes. During the course of the treatment, the patient's father made periodic payments for the orthodontist's services, and by December 1983 the entire fee had been paid except for a balance of \$400.

About eight months after the completion of treatment, the orthodontist filed an action against the father, seek-

ing payment of the balance of his bill.

A city court rendered judgment in favor of the orthodontist in half the amount sought, but a trial court entered judgment in favor of the patient. On further appeal, the court said that the orthodontist was entitled to recover the entire amount due on the contract. The father asserted that he was justified in refusing to pay the \$400 balance because the orthodontist failed to complete treatment within his 24-month estimate. The court said that even assuming that the orthodontist promised to complete treatment within 24 months, the patient continued to receive his services until the contract was completed, without complaint. The burden was upon the patient to show by way of competent expert testimony that the delay and resulting inconvenience were the fault of the orthodontist and caused \$400 in damages.—*Charles F. Broughton, D.M.D., P.C. v. Riehle*, 512 N.E.2d 1133 (Ind. Ct. of App., Sept. 22, 1987)—*Courtesy of The Citation, April 15, 1988*.



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BENJAMIN TEPLITSKY, R. PH.
Brooklyn, N.Y.

Look-alike and sound-alike drug names can be misinterpreted by a nurse reading doctors' orders or by a pharmacist compounding physicians' prescriptions. Such misunderstandings can result in the administration of a drug not intended by the prescriber. Awareness of such look-alike and sound-alike drug names can reduce potential errors.

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Tazidime, Lilly
Ceftazidime
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Cephalosporin
Cefizox, SKF
Ceftizoxime sodium
Injection, powder for
injection

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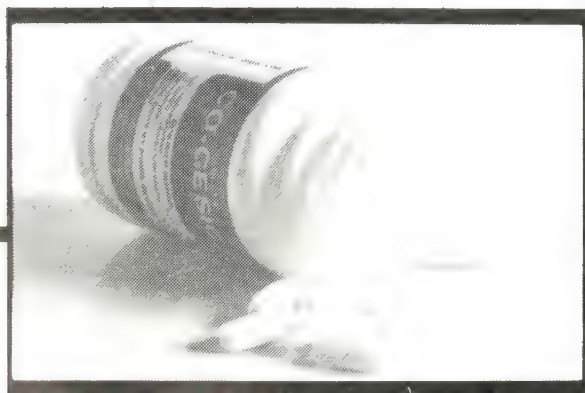
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Rite of Passage: The Changing Face of Graduate Medical Education

Guest Editorial

ROLAND B. MCGRATH, M.D.
Indianapolis

THERE HAS BEEN considerable recent public attention afforded the work schedules of house officers. Many would implicate, as the precipitant, a "Sixty Minutes" story. That television crew emphasized the sleep deprivation of a resident in New York City.

There have been other precedents. Perhaps the death of Libby Zion was most important in underscoring the issues of graduate medical education (GME). Ms. Zion was an 18-year-old daughter of a *New York Times* writer. She died in a New York hospital after alleged mismanagement by unsupervised first- and second-year residents. Currently, a multimillion dollar litigation is in progress.

The importance of GME is not being challenged—rather the tradition in which that experience is entrenched is receiving re-evaluation. In fact, relative isolation permits experience at problem-solving and decision-making, which

is generally accepted as critical to the education process. Unfortunately, however, most physicians have initiated or overheard dialogue that emphasized the rite of passage mentality. Friedman¹ referred to this as an "initiation rite into an elite society" and suggested this was a vehicle in the "search for omnipotence." Cousins² offered that practices were "disguised hazing at best and systematic desensitization at worst" and "not really worthy of the tradition of medicine."

Why are those previously accepted processes of GME precipitously found intolerable?

Sleep Deprivation

The effects of sleep deprivation have been of interest for almost a century. However, interest in the effects of sleep deprivation during GME have been expressed only for a decade and a half. Friedman³ assessed electrocardiographic arrhythmia detection and perceived mood and psycho-physiologic state in 14 medical interns who had a mean of 1.8 hours of sleep in 32 hours on duty. The group had reduced ability to recognize dysrhythmias while displaying perceptual distortion, temporal disorganization, recent memory impairment and decreased concentration. Hawkins⁴ also found deficits in primary mental tasks involving basic rote memory, language and numerical skills, as well as in tasks requiring high-order cognitive function and traditional intellectual abilities.

These evidences of adverse effects on those engaged in GME are consis-

tent with the broader sleep deprivation literature.⁵ That is, behavioral and psychomotor performances show decrements, particularly compromises in speed compared to accuracy. Adaptation is possible, and distributed deprivation is associated with fewer performance decrements. In addition, knowledge that stress is limited is better tolerated. Regardless, literature establishing the negative impact of sleep deprivation on performances is abundant. Then why has this phenomenon been rediscovered today?

GME Today

Hospital activities have changed dramatically in recent years. Technological and reimbursement changes have resulted in the selection of candidates for hospitalization who are more seriously ill and for whom the demands of care are greater. Technology has increased procedures, orders, coordination of support services, and related calls. The details of record-keeping to satisfy utilization review and third-party payers has exploded. The occult intimidation of medical-legal reprisal is ever present.

There can be no argument that GME now is very much unlike graduate education yesterday. Finally, put into socio-economic perspective, it is unlikely that participants in GME will continue to passively accept the traditions much earlier established within the workplace. So, what is being done?

Proposals

At least four states (New York,

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California, Massachusetts and Pennsylvania) have legislation pending regarding GME. The state legislature in New York has proposed 12-hour ER shifts, other shift maximums of 24 hours, and an 80-hour week with a 24-hour duty-free period. Originally slated for implementation in July 1988, new projections are for July 1989. Delays are mandated by the necessity to upgrade complementary services (IV teams, phlebotomists, messengers and transporters to assume residents' non-physician duties) at a projected expense to the state of \$200 million. Alternatives in the formulation of this plan had been to reduce the GME stipend and/or prolong the residency and fellowship training periods.

Enforcement of existing standards for GME is the responsibility of the Accreditation Council for GME, sponsored by the American Board of Medical Specialties (ABMS), American Hospital Association (AHA), American Medical Association (AMA), Association of American Medical Colleges (AAMC), and the Council of Medical Specialty Societies (CMSS).

The medical community is not anxious to have government regulation of GME. In November 1987, the Executive Council of the AAMC proposed that GME directors should assure that programs 1) enhance patient care; 2) permit progression from direct to indirect supervision and provide policies and procedures detailing the evolution of such delegation of responsibility; 3)

provide a 24-hour duty limit followed by at least an eight-hour duty-free period, assure an 80-hour week with at least one 24-hour duty-free period and discourage moonlighting; and 4) lobby for the assumption of incremental costs by third-party payers.

The AMA House of Delegates adopted a general statement of principles and recommendations in December 1987. The following were identified as important components of GME:

1) exemplary patient care must be achieved;

2) GME is an integral part of physician training;

3) concurrent goals of quality patient care and objectives of GME are the responsibility of program directors and associated institutions;

4) policies must detail mechanisms of GME supervision;

5) evaluation of the progress of individuals participating in GME must occur;

6) attending (supervisor) availability is mandatory;

7) the GME work schedule is the responsibility of the director and institution;

8) counseling should be provided;

9) support systems must be in place;

10) universally applicable guidelines are undesirable because of hospital and discipline differences; and

11) decreasing GME compensation is unacceptable.

Suggested schedules include no

more than duty every third night and a 24-hour duty-free interval each week.

Perspective

These impetuses to change some details of GME will probably be effected. GME is antiquated and needs at least gentle revision. The vulnerability of fatigued and frustrated residents is and has been apparent. It is unclear what organization(s) will dominate the initiative to redirect elements of medical education. In fact, some change has already been precipitated by the exposure and dialogue occurring.

Residency program directors should quickly create plans to reform the GME for which they are responsible. Broader audiences are important to negotiate the availability of alternative resources. Change in GME is inevitable and proper.

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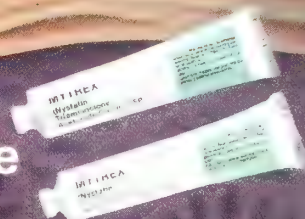
Please see facing [following] page for brief summary of prescribing information.

Systemic absorption of topical corticosteroids has produced reversible HPA suppression manifestations of Cushing's syndrome, hyperglycemia and glucosuria in some patients. Pediatric patients may demonstrate a greater susceptibility.

Reference: 1. Adams RM, Mallick HJ, Clendenning WE, et al. A five-year study of cosmetic reactions. *J Am Acad Dermatol* 1985;13(6):1062-1069.



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Brief Summary of Prescribing Information

For Dermatologic Use Only
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INDICATIONS AND USAGE: For the treatment of cutaneous candidiasis, it has been demonstrated that the nystatin-steroid combination provides greater benefit than the nystatin component alone during the first few days of treatment.

CONTRAINDICATIONS: This preparation is contraindicated in those patients with a history of hypersensitivity to any of its components.

PRECAUTIONS: **General:** Systemic absorption of topical corticosteroids has produced reversible hypothalamic-pituitary-adrenal (HPA) axis suppression, manifestations of Cushing's syndrome, hyperglycemia, and glucosuria in some patients. Conditions which augment systemic absorption include the application of the more potent steroids, use over large surface areas, prolonged use, and the addition of occlusive dressings (see DOSAGE AND ADMINISTRATION). Therefore, patients receiving a large dose of any potent topical steroid applied to a large surface area should be evaluated periodically for evidence of HPA axis suppression by using the urinary free cortisol and ACTH stimulation tests, and for impairment of thermal homeostasis. If HPA axis suppression or elevation of the body temperature occurs, an attempt should be made to withdraw the drug, to reduce the frequency of application, or to substitute a less potent steroid. Recovery of HPA axis function and thermal homeostasis are generally prompt and complete upon discontinuation of the drug. Infrequently, signs and symptoms of steroid withdrawal may occur, requiring supplemental systemic corticosteroids. Children may absorb proportionally larger amounts of topical corticosteroids and thus be more susceptible to systemic toxicity (see PRECAUTIONS, Pediatric Use). If irritation or hypersensitivity develops with the combination nystatin and triamcinolone acetonide, treatment should be discontinued and appropriate therapy instituted.

Information for the Patient: Patients using this medicine should receive the following information and instructions:

1. This medication is to be used as directed by the physician. It is for external use only. Avoid contact with the eyes.
2. Patients should be advised not to use this medication for any disorder other than for which it was prescribed.
3. The treated skin area should not be bandaged or otherwise covered or wrapped as to occlude (see DOSAGE AND ADMINISTRATION).
4. Patients should report any signs of local adverse reactions.
5. When using this medication in the inguinal area, patients should be advised to apply cream sparingly and to wear loose fitting clothing.
6. Parents of pediatric patients should be advised not to use tight-fitting diapers or plastic pants on a child being treated in the diaper area, as these garments may constitute occlusive dressings.
7. Patients should be advised on preventive measures to avoid reinfection.

Laboratory Tests: If there is a lack of therapeutic response, appropriate microbiological studies (e.g., KOH smears and/or cultures) should be repeated to confirm the diagnosis and rule out other pathogens, before instituting another course of therapy. The following tests may be helpful in evaluating hypothalamic-pituitary-adrenal (HPA) axis suppression due to the corticosteroid. Urinary free cortisol test, ACTH stimulation test.

Carcinogenesis, Mutagenesis, and Impairment of Fertility: Long-term animal studies have not been performed to evaluate the carcinogenic or mutagenic potential or possible impairment of fertility in males or females.

Pregnancy Category C: There are no teratogenic studies with combined nystatin and triamcinolone acetonide. Corticosteroids are generally teratogenic in laboratory animals when administered systemically at relatively low dosage levels. The more potent corticosteroids have been shown to be teratogenic after dermal application in laboratory animals. Therefore, any topical corticosteroid preparation should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus. Topical preparations containing corticosteroids should not be used extensively on pregnant patients, in large amounts, or for prolonged periods of time.

Nursing Mothers: It is not known whether any component of this preparation is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised during use of this preparation by a nursing woman.

Pediatric Use: In clinical studies of a limited number of pediatric patients ranging in age from 2 months through twelve years, Nystatin-Triamcinolone Acetonide Cream cleared or significantly ameliorated the disease state in most patients. Pediatric patients may demonstrate greater susceptibility to topical corticosteroid-induced hypothalamic-pituitary-adrenal (HPA) axis suppression and Cushing's syndrome than mature patients because of a larger skin surface area to body weight ratio. HPA axis suppression, Cushing's syndrome, and intracranial hypertension have been reported in children receiving topical corticosteroids. Manifestations of adrenal suppression in children include linear growth retardation, delayed weight gain, low plasma cortisol levels, and absence of response to ACTH stimulation. Manifestations of intracranial hypertension include bulging fontanelles, headaches and bilateral papilledema. Administration of topical corticosteroids to children should be limited to the least amount compatible with an effective therapeutic regimen. Chronic corticosteroid therapy may interfere with the growth and development of children.

ADVERSE REACTIONS: A single case (approximately one percent of patients studied) of acneiform eruption occurred with the use of combined nystatin and triamcinolone acetonide in clinical studies.

Nystatin is virtually nontoxic and nonsensitizing and is well tolerated by all age groups, even during prolonged use. Rarely, irritation may occur.

The following local adverse reactions are reported infrequently with topical corticosteroids. These reactions are listed in an approximate decreasing order of occurrence: burning, itching, irritation, dryness, folliculitis, hypertrichosis, acneiform eruptions, hypopigmentation, perioral dermatitis, allergic contact dermatitis, maceration of the skin, secondary infection, skin atrophy, striae and milium.

DOSAGE AND ADMINISTRATION: Cream: Apply MYTREX[®] (Nystatin-Triamcinolone Acetonide) Cream, USP to the affected area twice daily in the morning and the evening by gently and thoroughly massaging the preparation into the skin. Ointment: A thin film of MYTREX[®] is usually applied to the affected area twice daily in the morning and evening. MYTREX[®] should be discontinued if symptoms persist after 25 days of therapy (See PRECAUTIONS, Laboratory Tests). MYTREX[®] should not be used with occlusive dressings.

Caution: Federal law prohibits dispensing without prescription.

YOCON[®]

YOHIMBINE HCl

Description: Yohimbine is a 3a-15a-20B-17a-hydroxy Yohimbine-16a-carboxylic acid methyl ester. The alkaloid is found in Rubiaceae and related trees. Also in Rauwolfia Serpentina (L) Benth. Yohimbine is an indolalkylamine alkaloid with chemical similarity to reserpine. It is a crystalline powder, odorless. Each compressed tablet contains (1/12 gr.) 5.4 mg of Yohimbine Hydrochloride.

Action: Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalamic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it; however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

Indications: Yocon[®] is indicated as a sympatholytic and mydriatic. It may have activity as an aphrodisiac.

Contraindications: Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

Warning: Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

Adverse Reactions: Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.^{1,2} Also dizziness, headache, skin flushing reported when used orally.^{1,3}

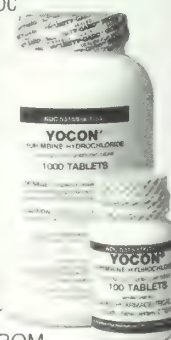
Dosage and Administration: Experimental dosage reported in treatment of erectile impotence.^{1,3,4} 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.³

How Supplied: Oral tablets of Yocon[®] 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

References:

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3. Weekly Urological Clinical letter, 27:2, July 4, 1983.
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Depression: It May Be Your Patient's Best Kept Secret

BETTY WHITE
Indianapolis

IF YOU ARE a primary care physician, it's a safe bet that at least one patient you saw this week disguised or denied a costly and potentially fatal condition—clinical depression.

This is not speculation.

The National Institute of Mental Health (NIMH) estimates that nearly 10 million people will suffer an episode of depression in the coming six months. As many as 5% of your patients may be suffering from mild to severe depression.

But although you are their first source of help, they probably won't tell you. They'll say, "I'm not sleeping well" or "I need vitamins or something. I don't seem to have much energy" or "I don't know. I must be getting old. I'm having trouble remembering things or concentrating." All these complaints can be symptoms of depression.

Your patients don't mean to deceive you. Most depressed people don't realize what their problem is, or they feel ashamed of what they see as a weakness or a character flaw.

Because they may deny their own feelings or because physicians may fail to recognize the symptoms of depression, only one-third of all depressed patients will receive treatment.

The remaining two-thirds will be caught up in a spiral of pain that can

lead to destruction of relationships, loss of jobs, alcoholism or drug abuse, and, ultimately, suicide.

How then can you recognize the symptoms that so often are overlooked? Dr. Stephen R. Dunlop, assistant professor of psychiatry at Indiana University and director of the Depressive Disorders Clinic at Larue Carter Hospital in Indianapolis, advises that you look for the following complaints (or for indications of these symptoms if your patient cannot admit to them):

- Feelings of guilt, helplessness and hopelessness
- Sadness, irritability, fear
- Loss of self-esteem
- Difficulty concentrating or remembering
- Headache, backache or other chronic pain
- Loss of appetite or overeating
- Sleeplessness or the desire to oversleep
- Decreased energy, fatigue, slowed thinking
- Loss of interest in usually pleasurable activities, including sex
- Thoughts of death or suicide, or suicide attempts

Dr. Dunlop recommends asking the following questions if you suspect a patient is suffering from depression:

1. Have you noticed any changes in your sleeping habits?
2. How is your appetite? Are you eating less (or craving more food)?
3. Are you having any trouble concentrating or remembering?
4. Are you enjoying the things you usually like to do?

If your suspicions are alerted by any of these symptoms, you may have to help your patients understand their condition. They may need reassurance

that depression does not mean that they are weak or "bad" people—and they are not alone.

Who Suffers from Depression?

The NIMH reports the following statistics:

- About one of 20 Americans now suffers from depression. More than one-fifth of the population will suffer a major depressive incident at some time in their lives.

- Clinical depression is twice as common in women as it is in men. During any three-month period, approximately 6.6% of women and 3.5% of men will have a depressive disorder.

- More people under the age of 40 are depressed than any other age group.

- Infants and children also suffer depression.

- Divorced people have the highest rate of depression. Married people or people in ongoing intimate relationships have a somewhat lower rate of clinical depression than those living alone. Married men have the lowest rates.

What Causes Depression?

We don't know all the causes of depression, but research has shown that biological and psychosocial factors may predispose an individual to depressive disorders. The death of a loved one, divorce, major financial upheaval and other life events may bring about depressive disorder. But depression also can occur spontaneously with no definable cause.

Genetics may be a factor. Rates of depression are consistently higher among children of depressed parents.

Chronic or acute physical illnesses may cause depression. This is an im-

The author is an Indianapolis freelance writer and editor.

portant factor to consider when deciding if a patient can be released from the hospital. A depressed patient may not take prescribed medication or other therapies.

Depression also can be associated with abnormal hormonal functioning or with certain medicines. Research in these fields is continuing.

Is Treatment Successful?

Depression that is not treated can go on for months or even become a chronic condition. But depression can be treated effectively. Treatment that includes both medication and therapy gets fast results. Between 80 and 90% of people with serious depression, even severe disorders, show improvement in a matter of weeks.

Although depression tends to recur, treatment can lessen the length and severity of such episodes. Most patients can lead normal lives.

If not properly treated, depression may lead to suicide. According to the NIMH, up to 15% of improperly treated patients with severe clinical depression may commit suicide. Although women attempt suicide more often than men, men are two to three times more likely to actually kill themselves.

Many people, friends and family as well as practitioners, are fearful of discussing suicide with a depressed person. However, Dr. Dunlop recommends that you talk with your patient if you believe suicide may be an option the patient is considering. "You needn't fear that you will plant the idea in their minds. And if they are considering suicide, your concern may be instrumental in saving them."

Where To Refer Patients

Although some primary care physicians can and do treat depressive disorders, you may wish to make referrals to mental health specialists, such as the following:

- Private specialists—psychiatrists, psychologists, family therapists and social workers. (Only psychiatrists, as

physicians, can prescribe antidepressant drugs, but other therapists often work with a physician who prescribes medications.)

- Community mental health centers, which often provide treatment at a cost determined by the patient's ability to pay.

- Hospitals and universities, some of which have special research centers that study and treat depression.

Counseling Friends and Family

Friends and family of a depressed patient may turn to you for help. The NIMH offers the following advice for those concerned about a loved one:

- Maintain as normal a relationship as possible.

- Point out distorted or negative thinking without being critical or disapproving.

CONTINUED ON PAGE 919

Children Can Be Depressed, Too

Depression in children only recently has been recognized by psychiatry. "We don't even have a language for childhood depression," says Dr. Jerry Fletcher. "But we know that children manifest different symptoms of depression at different ages."

Dr. Fletcher, assistant professor of psychiatry and director of Psychiatric Consult/Liaison Service in Riley Hospital and director of the Adolescent In-Patient Unit in University Hospital in Indianapolis, describes the following symptoms for distinct age groups:

Older teens: Teenagers have symptoms very similar to adults. Look for the same loss of zest for life, passivity and perhaps thoughts of suicide. Teens also may "act out" with drugs, alcohol or disruptive behavior. Teens are introspective and may bristle at adult questions, but you can help an older teenager to open up (he or she probably wants help but may not say so). Try questions such as "What's going on in your life? Are you looking forward to football? Why not? Are you dating? If you had a free day, what would you do?"

About 8 to 12 years old: These children have no language for depression. If they have pain, it must be physical. So they'll come in with stomach aches or earaches. This is normally a very industrious

age. Watch for posture that indicates dejection or fatigue. They may say they don't want to go to school or that they have no friends.

Children under 8 years of age: These children may not eat or sleep well. They may be constipated, literally holding in their pain. Younger children are watched carefully for physical development—height and weight. But often we miss symptoms of withdrawal or emotional pain. They may be silent or sullen, or they may start fights. Young children think of suicide. It's now thought that many childhood accidents really aren't accidents at all. A child who runs out in front of cars or jumps from high places may be trying to die.

Infants: It's been said that a child experiences attachment, separation and loss (all the basic elements of life) in their first two years. All the rest of life is repetition.

Infants need physical nurturing. They need to be held gently. They need lots of eye contact, warmth and consistent caregiving. Some babies die because they lack warm physical contact. They literally starve for love.

These infants may have parents who were deprived of love and thus did not learn how to show love to their own children. In such cases, parents need to be taught how to hold and tend their children.



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[†]Due to susceptible strains of indicated pathogens. See indicated organisms in Brief Summary.

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BRIEF SUMMARY

CONSULT PACKAGE INSERT FOR FULL PRESCRIBING INFORMATION INDICATIONS AND USAGE

Cipro[®] is indicated for the treatment of infections caused by susceptible strains of the designated microorganisms in the conditions listed below.

Lower Respiratory Infections caused by *Escherichia coli*, *Klebsiella pneumoniae*, *Enterobacter cloacae*, *Proteus mirabilis*, *Pseudomonas aeruginosa*, *Haemophilus influenzae*, *Haemophilus parainfluenzae*, and *Streptococcus pneumoniae*.

Skin and Skin Structure Infections caused by *Escherichia coli*, *Klebsiella pneumoniae*, *Enterobacter cloacae*, *Proteus mirabilis*, *Proteus vulgaris*, *Providencia stuartii*, *Morganella morganii*, *Citrobacter freundii*, *Pseudomonas aeruginosa*, *Staphylococcus epidermidis*, and nonpenicillinase-producing strains, *Staphylococcus epidermidis*, and *Streptococcus pyogenes*.

Bone and Joint Infections caused by *Enterobacter cloacae*, *Serratia marcescens*, and *Pseudomonas aeruginosa*.

Urinary Tract Infections caused by *Escherichia coli*, *Klebsiella pneumoniae*, *Enterobacter cloacae*, *Serratia marcescens*, *Proteus mirabilis*, *Providencia rettgeri*, *Morganella morganii*, *Citrobacter diversus*, *Citrobacter freundii*, *Pseudomonas aeruginosa*, *Staphylococcus epidermidis*, and *Streptococcus faecalis*.

Infectious Diarrhea caused by *Escherichia coli* (enterotoxigenic strains), *Campylobacter jejuni*, *Shigella flexneri*, and *Shigella sonnei** when antibacterial therapy is indicated.

*Efficacy for this organism in this organ system was studied in fewer than 10 infections.

Appropriate culture and susceptibility tests should be performed before treatment in order to isolate and identify organisms causing infection and to determine their susceptibility to ciprofloxacin. Therapy with Cipro[®] may be initiated before results of these tests are known, once results become available appropriate therapy should be continued. As with other drugs, some strains of *Pseudomonas aeruginosa* may develop resistance fairly rapidly during treatment with ciprofloxacin. Culture and susceptibility testing performed periodically during therapy will provide information not only on the therapeutic effect of the antimicrobial agent but also on the possible emergence of bacterial resistance.

CONTRAINDICATIONS

A history of hypersensitivity to ciprofloxacin is a contraindication to its use. A history of hypersensitivity to other quinolones may also contraindicate the use of ciprofloxacin.

WARNINGS

CIPROFLOXACIN SHOULD NOT BE USED IN CHILDREN OR PREGNANT WOMEN. The oral administration of ciprofloxacin caused lameness in immature dogs. Histopathological examination of the weight bearing joints of these dogs revealed permanent lesions of the cartilage. Related drugs such as nalidixic acid, cinoxacin, and norfloxacin also produced erosions of cartilage of weight-bearing joints and other signs of arthropathy in immature animals of various species (SEE ANIMAL PHARMACOLOGY SECTION IN FULL PRESCRIBING INFORMATION).

PRECAUTIONS

General

As with other quinolones, ciprofloxacin may cause central nervous system (CNS) stimulation, which may lead to tremor, restlessness, lightheadedness, confusion, and very rarely to hallucinations or convulsive seizures. Therefore, ciprofloxacin should be used with caution in patients with known or suspected CNS disorders, such as severe cerebral arteriosclerosis or epilepsy, or other factors which predispose to seizures (SEE ADVERSE REACTIONS).

Crystals of ciprofloxacin have been observed rarely in the urine of human subjects but more frequently in the urine of laboratory animals. Crystalluria related to ciprofloxacin has been reported only rarely in man, because human urine is usually acidic. Patients receiving ciprofloxacin should be well hydrated, and alkalinity of the urine should be avoided. The recommended daily dose should not be exceeded. Alteration of the dosage regimen is necessary for patients with impairment of renal function (SEE DOSAGE AND ADMINISTRATION SECTION IN FULL PRESCRIBING INFORMATION).

Drug Interactions

Concurrent administration of ciprofloxacin with theophylline may lead to elevated plasma concentrations of theophylline and prolongation of its elimination half-life. This may result in increased risk of theophylline-related adverse reactions. If concomitant use cannot be avoided, plasma levels of theophylline should be monitored and dosage adjustments made as appropriate.

Antacids containing magnesium hydroxide or aluminum hydroxide may interfere with the absorption of ciprofloxacin, resulting in serum and urine levels lower than desired; concurrent administration of these agents with ciprofloxacin should be avoided.

Probenecid interferes with the renal tubular secretion of ciprofloxacin and produces an increase in the level of ciprofloxacin in the serum. This should be considered if patients are receiving both drugs concomitantly.

As with other broad-spectrum antibiotics, prolonged use of ciprofloxacin may result in overgrowth of nonsusceptible organisms. Repeated evaluation of the patient's condition and microbial susceptibility testing is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Information for Patients

Patients should be advised that ciprofloxacin may be taken with or without meals. The preferred time of dosing is two hours after a meal. Patients should also be advised to drink fluids liberally and not take antacids containing magnesium or aluminum concomitantly or within two hours after dosing. Ciprofloxacin may cause dizziness or lightheadedness; therefore patients should know how they react to this drug before they operate an automobile or machinery or engage in activities requiring mental alertness or coordination.

Carcinogenesis, Mutagenesis, Impairment of Fertility

Eight *in vitro* mutagenicity tests have been conducted with ciprofloxacin and the test results are listed below.

- Salmonella/Microsome Test (Negative)
- E. coli* DNA Repair Assay (Negative)
- Mouse Lymphoma Cell Forward Mutation Assay (Positive)
- Chinese Hamster V₇₉ Cell HGPRT Test (Negative)
- Syrian Hamster Embryo Cell Transformation Assay (Negative)
- Saccharomyces cerevisiae* Point Mutation Assay (Negative)
- Saccharomyces cerevisiae* Mitotic Crossover and Gene Conversion Assay (Negative)
- Rat Hepatocyte DNA Repair Assay (Positive)
- Thus, two of the eight tests were positive, but the following three *in vivo* test systems gave negative results:
 - Rat Hepatocyte DNA Repair Assay
 - Micronucleus Test (Mice)
 - Dominant Lethal Test (Mice)

Long term carcinogenicity studies in animals have not yet been completed.

Pregnancy - Pregnancy Category C

Reproduction studies have been performed in rats and mice at doses up to six times the usual daily human dose and have revealed no evidence of impaired fertility or harm to the fetus due to ciprofloxacin. In rabbits, as with most antimicrobial agents, ciprofloxacin (30 and 100 mg/kg orally) produced gastrointestinal disturbances resulting in maternal weight loss and an increased incidence of abortion. No teratogenicity was observed at either dose. After intravenous administration, at doses up to 20 mg/kg, no maternal toxicity was produced, and no embryotoxicity or teratogenicity was observed. There are, however, no adequate and well-controlled studies in

CONVENIENT B.I.D. DOSAGE

Recommended dosage schedule

Infection Site*	Severity of Infection	Dosage
Respiratory Tract*	Mild/Moderate	500 mg B.I.D.
Bone and Joint*		
Skin/Skin Structure*	Severe/Complicated	750 mg B.I.D.
Urinary Tract†	Mild/Moderate	250 mg B.I.D.
	Severe/Complicated	500 mg B.I.D.
Infectious Diarrhea*	Mild/Moderate/Severe	500 mg B.I.D.

pregnant women. SINCE CIPROFLOXACIN, LIKE OTHER DRUGS IN ITS CLASS, CAUSES ARTHROPATHY IN IMMATURE ANIMALS, IT SHOULD NOT BE USED IN PREGNANT WOMEN (SEE WARNINGS).

Nursing Mothers

It is not known whether ciprofloxacin is excreted in human milk, however, it is known that ciprofloxacin is excreted in the milk of lactating rats and that other drugs of this class are excreted in human milk. Because of this and because of the potential for serious adverse reactions from ciprofloxacin in nursing infants, a decision should be made to discontinue nursing or to discontinue the drug, taking into account the importance of the drug to the mother.

Pediatric Use

Ciprofloxacin should not be used in children because it causes arthropathy in immature animals (SEE WARNINGS).

ADVERSE REACTIONS

Ciprofloxacin is generally well tolerated. During clinical investigation, 2,799 patients received 2,868 courses of the drug. Adverse events that were considered likely to be drug related occurred in 7.3% of courses, possibly related in 9.2%, and remotely related in 3.0%. Ciprofloxacin was discontinued because of an adverse event 3.5% of courses, primarily involving the gastrointestinal system (1.5%), skin (0.6%), and central nervous system (0.4%).

The most frequently reported events, drug related or not, were nausea (5.2%), diarrhea (2.3%), vomiting (2.0%), abdominal pain/discomfort (1.7%), headache (1.2%), restlessness (1.1%), and rash (1.1%).

Additional events that occurred in less than 1% of ciprofloxacin courses are listed below. Those typical quinolones are italicized.

GASTROINTESTINAL (See above), painful oral mucosa, oral candidiasis, dysphagia, intestinal perforation, gastrointestinal bleeding.

CENTRAL NERVOUS SYSTEM (See above), dizziness, lightheadedness, insomnia, nightmares, hallucinations, manic reaction, irritability, tremor, ataxia, convulsive seizures, lethargy, drowsiness, weakness, malaise, anorexia, phobia, depersonalization, depression, paresthesia.

SKIN/HYPERSENSITIVITY (See above), pruritus, urticaria, photosensitivity, flushing, fever, chills, angioedema, edema of the face, neck, lips, conjunctivae or hands, cutaneous candidiasis, hyperpigmentation, erythema nodosum.

SPECIAL SENSES blurred vision, disturbed vision, (change in color perception, overbrightness of light, decreased visual acuity, diplopia, eye pain, tinnitus, bad taste).

MUSCULOSKELETAL joint or back pain, joint stiffness, achiness, neck or chest pain, flare-up of gout.

RENAL/UROGENITAL interstitial nephritis, renal failure, polyuria, urinary retention, urethral bleeding, vaginitis, acidosis.

CARDIOVASCULAR palpitations, atrial flutter, ventricular ectopy, syncope, hypertension, angina pectoris, myocardial infarction, cardiopulmonary arrest, cerebral thrombosis.

RESPIRATORY epistaxis, laryngeal or pulmonary edema, hiccough, hemoptysis, dyspnea, bronchospasm, pulmonary embolism.

Most of these events were described as only mild or moderate in severity, abated soon after the drug was discontinued, and required no treatment.

In several instances, nausea, vomiting, tremor, restlessness, agitation, or palpitations were judged by investigators to be related to elevated plasma levels of theophylline possibly as a result of a drug interaction with ciprofloxacin.

Adverse Laboratory Changes Changes in laboratory parameters listed as adverse events without regard to drug relationship.

Hepatic - Elevations of ALT (SGPT) (1.9%), AST (SGOT) (1.7%), alkaline phosphatase (0.8%), LDH (0.4%), serum bilirubin (0.3%).

Hematologic - eosinophilia (0.6%), leukopenia (0.4%), decreased blood platelets (0.1%), elevated blood platelets (0.1%), pancytopenia (0.1%).

Renal - Elevations of Serum creatinine (1.1%), BUN (0.9%).

CRYSTALLURIA, CYLINDRURIA, AND HEMATURIA HAVE BEEN REPORTED.

Other changes occurring in less than 0.1% of courses were: Elevation of serum gamma-glutamyl transferase, elevation of serum amylase, reduction in blood glucose, elevated uric acid, decrease in hemoglobin, anemia, bleeding diathesis, increase in blood monocytes, and leukocytosis.

OVERDOSAGE

Information on overdosage in humans is not available. In the event of acute overdosage, the stomach should be emptied by inducing vomiting or by gastric lavage. The patient should be carefully observed and given supportive treatment. Adequate hydration must be maintained. In the event of serious toxic reactions from overdosage, hemodialysis or peritoneal dialysis may aid in the removal of ciprofloxacin from the body, particularly if renal function is compromised.

DOSAGE AND ADMINISTRATION

The usual adult dosage for patients with urinary tract infections is 250 mg every 12 hours. For patients with complicated infections caused by organisms not highly susceptible, 500 mg may be administered every 12 hours.

Respiratory tract infections, skin and skin structure infections, and bone and joint infections may be treated with 500 mg every 12 hours. For more severe or complicated infections, a dosage of 750 mg may be given every 12 hours.

The recommended dosage for infectious diarrhea is 500 mg every 12 hours.

In patients with renal impairment, some modification of dosage is recommended (SEE DOSAGE AND ADMINISTRATION SECTION IN FULL PRESCRIBING INFORMATION).

HOW SUPPLIED

Cipro[®] (ciprofloxacin HCl/Miles) is available as tablets of 250 mg, 500 mg, and 750 mg in bottles of 50, and Unit-Dose packages of 100 (SEE FULL PRESCRIBING INFORMATION FOR COMPLETE INFORMATION).

* Due to susceptible strains of indicated pathogens. See indicated organisms in Brief Summary.

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The Latchkey Solution in Indiana

After-School Care of Unsupervised Children

PATRICIA G. BECKER, M.D.
Indianapolis

ALL CHILDREN at some time or other are in a "latchkey" situation, according to Glen Stevens, director of the Elkhart latchkey program, "Keys to Self-Care." This program is just one of several available in Indiana aimed at educating families who rely on some form of self-care. According to the National Institute of Child Health and Human Development, 2.1 million or 7% of U.S. children ages 5 through 13 are left unsupervised by an adult before or after school.¹

The concern for their well-being and safety has been the subject of recent legislation in Indiana. Representative John Day managed to have appropriated \$400,000 to fund after-school child care for low-income families. (This was a package tied to the cigarette and tobacco tax bill, House Act No. 1533.) These "low-income" families must have incomes below 150% of the national poverty level, corresponding to family size. These figures are calculated by the federal Office of Management and Budget. Programs are funded in 28 locales throughout Indiana (*Table*).

The author is chairman of the Community Health Committee, Indiana State Chapter, American Academy of Pediatrics.

Correspondence: Patricia Gallagher Becker, M.D., Dept. of Pediatrics, St. Vincent Hospital and Health Care Center, 2001 W. 86th St., Indianapolis, Ind. 46260.

Abstract

This paper identifies availability of latchkey programs in Indiana. Providers of pediatric care should familiarize themselves with the needs of this group of children. The anticipatory guidance portion of the school-aged well child visit provides an excellent opportunity to address these needs.

In addition to after-school "child care," several programs in Indiana incorporate an educational approach to self-care. In Valparaiso five sessions are offered after school hours for the second through sixth grader who is anticipating being home alone. Both parents and children attend the first and fifth sessions. In sessions two through four the child is taught personal safety, management of emergencies and sibling interaction. The Heimlich maneuver also is taught.

An alternative approach is taken at the Elkhart Youth Services Bureau. Their "Keys to Self-Care" program is a routine part of the fourth grade public school year. This approach provides one-two hours of education on each of two days. Handouts are provided for the children to take home and the subject is then reviewed with parents at the PTA or PTO evening sessions. The program's philosophy is that all children need this training. The program is further designed to help parents evaluate whether their child is actually competent to manage after-school self-care.

The recommended approach is to promote communication between

parent and child so the parent can establish acceptable before- and after-school behaviors. These expected behaviors should include methods of evacuation in case of fire and management of "arrivals" at the door and of phone calls. Also discussed are the appropriate use of time, including snack, homework, play/activity and television time. The Elkhart director described a second grader who was actually preparing an after-school snack on the stove!

The Elkhart program also is available to private groups such as Scouts and libraries. Furthermore, there is a 24-hour hotline called "Switchboard Concern." Call-in cards with the corresponding phone numbers are given at the teaching sessions. Calls range from pleas for help with homework to fears from "creaky" noises in the house and of being alone. Such telephone call-in services have been developed in more than 100 cities throughout the nation. In one study, calls at the Tucson and Baltimore KIDSLINE were analyzed. Sixty-eight percent of calls pertained to loneliness and boredom, 8% to homework help, 3% to medical problems and 2% to fears. Of 4,290 calls, none were for life-threatening emergencies.²

In Marion County the Extension Office offers a monthly newsletter for parents of "latchkey" children ages 9 to 13, covering topics similar to those offered through the Elkhart program.

Another program has been set up at the Washington Township School District in Indianapolis. Ellen Clippinger is the coordinator of "At Your School Child Services, Inc." She hires

employees and structures programs for individual schools. These programs consist of homework time with available tutoring and other activities, including outdoor play, field trips and non-homework learning activities, such as crafts and hands-on experiences. Ellen's philosophy is to provide a safe and enriching environment for the child before and after school. Families pay her not-for-profit corporation and the corporation must then rent space

from the school. She also relies on support from churches and charitable foundations. Currently, no formal licensing is required unless the program exceeds more than four hours in a "child care" setting.

Indiana pediatric providers should be aware of regional programs supporting before- and after-school care for children. These children are a result of our changing society. These aspects of the child's care can be discussed as

anticipatory guidance at the well visit.

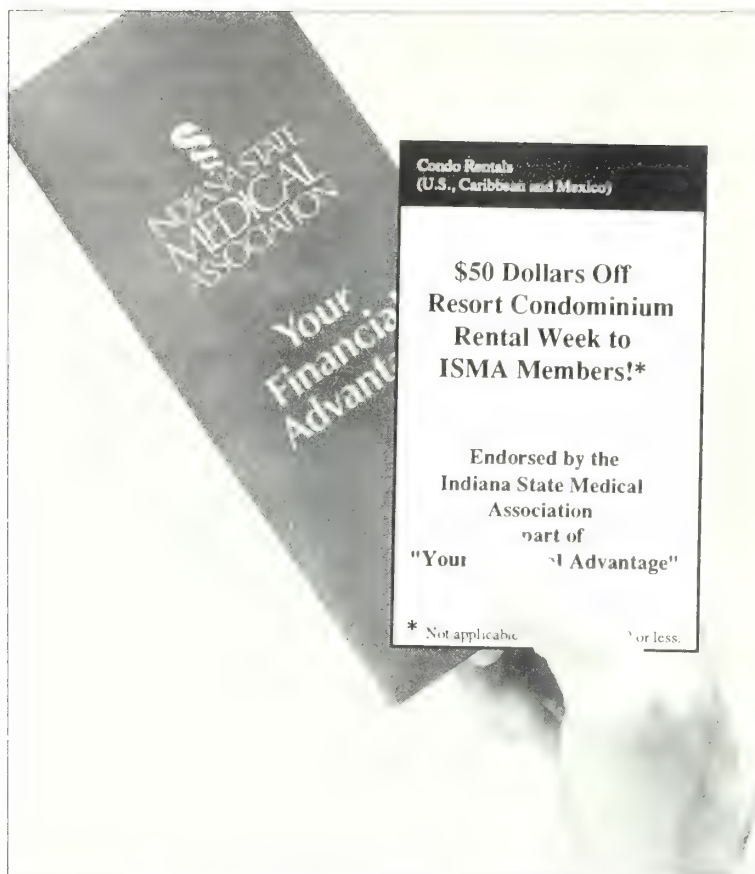
REFERENCES

1. Cain V, Hofferth S: Latchkey children. *National Institute of Child Health and Human Development*, 1987.
2. Williams RL, Fosarelli PD: Telephone call in services for children in self-care. *ADDC*, 141(9):965-968, 1987.
3. Latchkey provider list. State of Indiana, Department of Human Services, Social Services Division, Indianapolis, Indiana, 1988.

TABLE
Indiana Latchkey Programs

Facility	Address and Contact person	Facility	Address and Contact person
1) Neighbor's, Inc.	1021 W. Wayne St. Fort Wayne 46802 (219) 426-5428 Owen Wemhoff	9) Westminster Community Center	P.O. Box 603 New Castle 47362 (317) 529-5124 Karen Copeland
2) Fort Wayne YMCA	200 Wells St. Fort Wayne 46808 (219) 424-4908 Amy Sozwabowicz	10) CARE Education Center	4201 Washington St. Gary 46408 (219) 884-2273 Linda Davis
3) Carpenter Shop	4643 Gaywood Dr. Fort Wayne 46806 (219) 456-8168 Ksenia Kowal	11) Hayes Children's Haven	435 Clark Road Gary 46406 (219) 944-0706 Mary Hayes
4) Children, Inc.	715 McClure Rd. Columbus 47201 (812) 379-2319 Connie Woodward	12) Punch and Judy	807 Merrillville Rd. Crown Point 46307 (219) 769-6076 June Anderson
5) YMCA, Southern Indiana	4812 Hamburg Pike Jeffersonville 47130 (812) 288-7181 Joseph La Rocca	13) Lakeland Community Center	P.O. Box 12 W.E. Long Drive Syracuse 46567 (219) 457-4983 Carol Hurd
6) Rehabilitation Center of Southern Indiana	1329 Applegate Lane Clarksville 47131 (812) 283-7908 Carolyn Rife	14) Family & Children's Services, Inc.	1222 Central Ave. Anderson 46016 (317) 649-5265 Cathe Fulcher
7) YMCA, Daviess Co., Inc	405 N.E. Third St. Washington 47501 (812) 254-4481 Martin Elmes	15) Indianapolis YWCA	4460 Guion Rd. Indianapolis 46254 (317) 299-2750 Beth Campbell
8) Huffer Memorial Children's Center	2000 N. Elgin St Muncie 47303 (317) 289-0409 Judy Miller	16) AYS Services, Inc.	2140 W. 44th St. Indianapolis 46208 (317) 293-9284 Ellen Clippinger

Facility	Address and Contact person	Facility	Address and Contact person
17) IPS	901 N. Carrollton Indianapolis 46202 (317) 266-4545 Ann Marbaugh	23) Hansel Neighborhood Services	1045 W. Washington St. South Bend 46601 (219) 234-6041 Robert Watkins
18) Child Day Care Center of Plymouth	1305 W. Harrison Plymouth 46563 (219) 935-5468 Bonnie Yeazel	24) Community and Family Resource Center	P.O. Box 1186 Lafayette 47902 (317) 742-5046 Gloria Souder
19) Monroe County School Corp.	315 North Dr. Bloomington 47401 (812) 339-5480 Veda Stanfield	25) Tippecanoe County Child Care	P.O. Box 749 Lafayette 47902 (317) 742-4033 Deb Schetzsl
20) Lincoln's Hills	302 Main St. Tell City 47586 (812) 547-7777 Pam Drake	26) Wonderful Weekdays, Inc.	P.O. Box 2235 West Lafayette 47906 (317) 743-9374 Maude Halger
21) YMCA, Portage Township	6450 Evergreen Ave. Portage 46368 (219) 762-2012 Bruce Lindner	27) Evansville-Vander- burgh Schools	1 S.E. Ninth St. Evansville 47708 (812) 426-5060 Jack Humphrey
22) First Christian Church Center	7 Chicago St. Valparaiso 46383 (219) 462-0711 Margaret Walls	28) Happiness Bag, Inc.	1519 S. 7th St. Terre Haute (812) 234-8867 Steve Alexander



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The basic problem is that these professional money managers are so talented, so numerous and so dedicated that they make it difficult for any one of them to do significantly better than the others in the long run.

This has led to two different problems. The first problem is that it is very difficult to consistently beat the market. The second is that it is very easy to do much worse than the market.

Contrary to their marketing materials and their articulated performance, the stark record is that the vast majority of all investment managers are not beating the stock market. Yes, some have occasional periods of above average results. Yes, some are praised in the press. Yes, some are touted by friends. But these events raise expectations that are almost always dashed as false hopes.

For example, the mutual funds showcased annually by a popular consumer-oriented magazine as having

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GREGORY WRIGHT, CFP
Indianapolis

the best prior year performance, as a group, do much worse than the market averages in subsequent years.

A winning approach usually is short lived and only appropriate for a limited market environment. Last year's hot performing managers and stock brokers are a sure bet to become next year's losers.

Based on any broad measure of comparison—the Standard & Poor's 500 Stock Index, the Dow Jones Industrial Average or the Wilshire 5000—the majority of professional investment managers consistently, year after year, do worse than the market averages.

They might use a strategy that emphasizes particular groups of stocks, or market timing, or a combination of the two. They might perform detailed and

diligent research into under-priced securities to purchase and over-valued securities to avoid. They still generally do worse.

In any one year, over three-fourths of all professional stock portfolio managers are beaten by the market averages.

Amateurs and stock brokers generally do even worse ... much worse.

There is a crucial difference between those few who win the stock market game and the vast majority of the rest of us. Although both players use the same information, rules and measures of performance, the basic nature of the two players is quite different. It's best to sum up the difference in this way: the winning professionals win; the losing players lose—to the winners.

Winning at this game is measured by performance vis a vis all other players, and the ultimate outcome is determined by the actions of the winners. The winners make fewer technical mistakes, know their opponent players, have sound tactics and capitalize on the failure of their opponents.

Most games are played and won—or lost—in similar fashion.

In warfare, a game based on estimates, intelligence and intentions that are usually incomplete and partially faulty, the side that makes the fewest mistakes wins. In professional athletics, the winner seldom beats his or her opponent, but simply makes fewer mistakes. Fewer balls go out of bounds and fewer errors are made.

Similarly, the victor in the stock market gets higher scores simply because his opponents make more mistakes.

What's more, because frugal management and economics of scale greatly influence results, a stock selection winner can become a dollar performance

loser. A winning portfolio manager can become a loser because of poor cost control.

The costs of managing a stock portfolio greatly influence net performance. These costs include transactions costs (commissions plus the spread between the bid and ask price of stocks) of about 2% to buy and 2% to sell, the fee for investment management (salaries, rent, postage, printing, utilities, legal and accounting services, etc.) which might be one-half to 1% of assets being managed or more.

Investment performance aside, these costs will vary considerably. A stock broker advising an investor on his portfolio might cause an annual portfolio turnover of three (the average is generally higher) and this could result in an annual expense of about 12%. An institution, such as a bank, insurance company or investment advisory firm, might have an operating expense ratio of 2 to 3%. A common stock mutual fund might have expenses ranging between one-half and 2% of assets being managed.

Recovering these costs is difficult. For example, if we assume an average return of 10% per year (the last 50 years' results), an institution would

have to recover its 2% operating cost by performing at an average of 12%. This is 20% better than the market's performance. Using this same approach, the stockbroker would have to average 22% (more than twice as good as the market averages).

The unvarnished truth is that few money managers win the stock market game. The historic record is that less than a quarter of them do.

However, should you give up and avoid the stock market as a "sham" investment appropriate only for speculators? The answer to this question lies in your short-term liquidity needs and temperance for market volatility. If you decide that the historic returns justify this volatility, but the averages cannot be beaten, you might opt for an "index" fund. These funds attempt to duplicate the market's averages and not necessarily to beat them. Index funds have outperformed most investment managers over past periods.

However, there are investment managers that do beat the market—net of expenses—over long periods of time. The key words are "over long periods of time." These managers tend to do slightly worse than the market

during rising or "bull" markets and much better than the market during falling or "bear" markets.

My experience has been to avoid the managers and firms that gain in occasional prominence because of their investment performance. That performance was a lucky punch that won't be duplicated in the future. Also, avoid managers who have expense ratios that exceed 1%. A high expense drag makes it virtually impossible to exceed the market averages over a period of several years.

If you have less than \$1 million to invest, are investing for the long haul (eight to ten years or longer), you might be well served to find a mutual fund with an expense ratio of less than 1/2% and a three-, five- and ten-year net performance record at least as good as comparable broad stock market statistics—while using the same portfolio manager.

Only about one dozen mutual funds meet this test. It's a tough business. Its battlefield is evident by the broken careers, dreams and fortunes of the players.

A wag once said, "If you are playing a game and do not know who the dupe is, you are the dupe."

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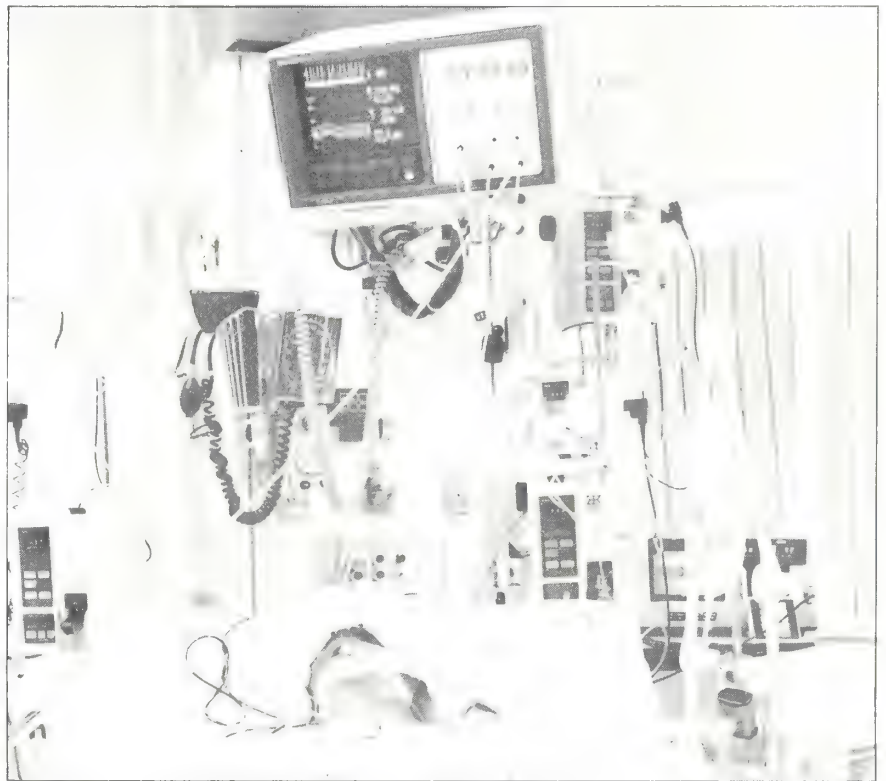
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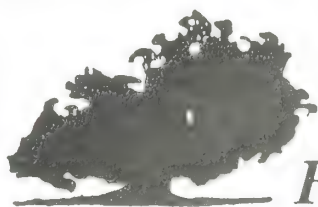
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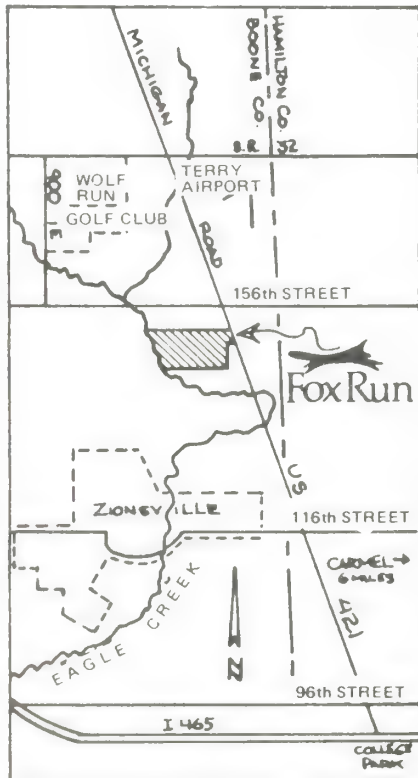
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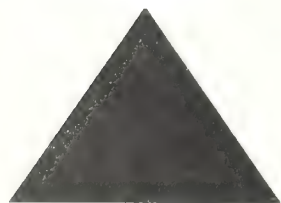
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- General Scientific Meeting
- Reference Committees
- President's Dinner and Dance
- Medical Section Meetings



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The 1988 Convention

Abridged Schedule of Events

THURSDAY, OCT. 20

7-8 p.m. Board of Trustees Reception
8-11 p.m. Board of Trustees Dinner

FRIDAY, OCT. 21

7:30 a.m. Rules and Order of Business
8 a.m. Exhibits Open
8 a.m. Board of Trustees Breakfast Meeting
9:30 a.m. House of Delegates, First Session
11 a.m. Reference Committees 1 & 6
1:30 p.m. Reference Committee 4
2:30 p.m. Reference Committee 3
5 p.m. "The Market Place" Theme Reception
7 p.m. Reference Committee 2
8 p.m. Reference Committee 5

SATURDAY, OCT. 22

8 a.m. Board of Trustees Breakfast Meeting
8:30 a.m. Medical Section Meetings Begin
9:30 a.m. Spouse Program
Noon IMPAC Luncheon
2 p.m. General Scientific Meeting
6:30 p.m. President's Reception
7:30 p.m. President's Dinner/Dance

SUNDAY, OCT. 23

8 a.m. Board of Trustees Breakfast Meeting
9 a.m. House of Delegates, Final Session
12:30 p.m. Trustees Organizational Meeting
Executive Committee Meeting

AIDS Among Topics at Scientific Meetings

An interesting schedule of scientific programs is shaping up for ISMA's annual convention. The Radisson Plaza Hotel, Keystone at the Crossing, Indianapolis, will be the host hotel for the event Oct. 21-23.

A full day of specialty section meetings is scheduled on Saturday. AIDS continues to command the attention of physicians and researchers. "Recent Scientific Development and Social Implications of AIDS at the National, State and Local Levels" is the topic of this year's general scientific meeting, scheduled from 2-5 p.m.

Speakers will include Roy Schwarz, M.D., AMA assistant vice-president for Medical Education and Science; Woodrow Myers, M.D., Indiana Commissioner of Health; Robert Jones, M.D., Ph.D., I.U. Department of Medicine, Division of Infectious Diseases; Martin Kleiman, M.D., chief of pediatric infectious diseases at University Hospital; and Judith Johnson, M.D., Indiana State Board of Health.

Dr. Schwarz will discuss AIDS on the national level. Dr. Myers' topic will be the socio-economic impact of AIDS in Indiana. I.U.'s clinical trials research



Schwarz



Myers



Jones

program for evaluation of new agents and treatment of HIV infection will be the subject of Dr. Jones' presentation. Dr. Kleiman will cover scientific and clinical aspects of HIV. Dr. Johnson will discuss AIDS education.

Morning programs will include a two-part session for the Section on Physical Medicine and Rehabilitation, from 8:30 a.m. to noon. The first part will be devoted to "A Practical Approach to Stroke Management." Stephen Ribaud, M.D., will discuss "Basic Stroke Rehabilitation." "A Difference Between Right and Left Hemiplegia" is the topic of Marion Weinstein, M.D., and "Complications of Stroke" will be discussed by Jeanine Sheppard, M.D.

The second half of the program will concern "Office Management of Painful Syndromes." Arden Pletzer, M.D., will discuss "Low Back Pain: The Country's Most Common Complaint." Dr. Robert Silbert's topic will be "Myofascial Pain Syndrome: A Muscle Condition More Common Than You Think." "The Ubiquitous Painful Shoulder" will be presented by Collette Cameron, M.D.

The Section on Family Medicine, which will be from 9 a.m. to noon, will consider "Cholesterol and Coronary Disease," with Wayne Peters, M.D.; "Diabetes Update," with Derek Le Roith, M.D., Ph.D.; and "Sports Medicine," with Robert Heidt, M.D.

The 1988 Convention

Official Call

The House of Delegates of the Indiana State Medical Association will convene at 9:30 a.m., EST, Friday, Oct. 21, 1988, in Plaza Ballroom C-E, level two of the Radisson Plaza Hotel.

The House will reconvene for its second (final) session at the same location at 9 a.m., EST, Sunday, Oct. 23, 1988.

Representation in the House for the 1987 annual meeting will be as follows:

Marion County—36 delegates.

Lake County—13 delegates.

Allen County—10 delegates.

Vanderburgh County—8 delegates.

St. Joseph County—6 delegates.

Delaware-Blackford, Owen-Monroe and Tippecanoe counties—4 delegates each.

Bartholomew-Brown, Elkhart, Vigo and Wayne-Union counties—3 delegates each.

Clark, Daviess-Martin, Dearborn-Ohio, Fayette-Franklin, Fountain-

Warren, Grant, Harrison-Crawford, Howard, Jefferson-Switzerland, LaPorte, Madison, Parke-Vermillion, and Porter counties—2 delegates each.

The remaining 56 Indiana county medical societies—1 delegate each.

Thirteen trustees and the 18 living past presidents.

The Resident Medical Society—6 delegates.

The Student Medical Society—1 delegate.

Total delegates—217.

The following shall be ex officio members: the president, president-elect, executive director, treasurer, assistant treasurer, speaker, vice speaker and delegates to the American Medical Association, all without power to vote, except in the case of a tie vote, when the speaker shall cast the deciding vote.

President's Night Gala To End Successful Year

"Music of the American Tradition" will be presented by Warren Covington and his Orchestra during the President's Night Dinner/Dance Saturday night. The program is described as an anthology of songs from 1900 to the 1980s. Covington, who plays the trombone in addition to leading the orchestra, conducted the Tommy Dorsey Orchestra for more than three years. He has appeared on numerous television shows and also has done commercial jingles.

Dr. MacDougall is not the first president for whom the Warren Covington Orchestra has played. In 1985, the orchestra was tapped to play at Ronald Reagan's Second Inaugural Ball.

President's Night promises to be an enjoyable evening as John D. MacDougall, M.D., celebrates a successful year as ISMA president. The gala will begin with a reception at 6:30 p.m. in Suite 16. The dinner will follow at 7:30 p.m. in Ballroom A-E.

Mutz and Bayh: IMPAC Speakers

Lt. Gov. John Mutz and Secretary of State Evan Bayh will speak during the IMPAC luncheon Saturday, Oct. 22. The luncheon, held in conjunction with the ISMA annual convention, will provide physicians an opportunity to compare both gubernatorial candidates just two weeks before the Nov. 8 election.

Mutz and Bayh will each make opening statements, including their positions on health issues, and then will take questions from the audience.

The race for governor has proven one of the most spirited in the last few years and will test whether Republicans can retain the office which they have held for 20 years. It is also a race that presents voters a choice between a veteran public servant and a newcomer with less than two years in a political office.



Bayh



Mutz

John Mutz has served as a state representative, a state senator and is completing his second four-year term as lieutenant governor. Bayh is the son of former Indiana Senator Birch Bayh and his late wife, Marvella. An attorney, he was elected secretary of state in 1986.

The IMPAC luncheon will be from noon to 2 p.m. in ballrooms C-E at the Radisson Plaza Hotel.

'Market Place' New Feature at Convention

The ambiance of a European street market will be re-created during a new event at the ISMA convention. "The Market Place" will be open from 5 to 7 p.m. Friday, Oct. 21, in Ballrooms C, D and E of the Radisson Plaza Hotel.

Delegates will have an opportunity to mingle with vendors in the informal setting. Those attending can sample continental cuisine and watch the antics of an organ grinder and his monkey, the tricks of a strolling magician and a caricaturist at work.

Sponsors of the event are American Physicians Life, Dimensions, Inc., George S. Olive and Co., Indiana Army National Guard, Indiana Heart Institute, Medical Accounts Group, Reach Rehabilitation, Smith Kline and French Laboratories and The Medical Protective Company.

The 1988 Convention

Commercial Exhibitors

Computer Companies

AMS of Indiana, Inc.
Advanced Medical Information Systems
BBM Office Products
Bradford-Scott Data Corporation
DataChem, Inc.
Hawkins, Ash, Baptie, Inc.
Medical Accounts Group, Inc.
Medical Payment Systems
Ranac Computer Corporation
Safeguard Business Systems
VersaCom, Inc.

Governmental Agencies

Indiana Army National Guard
Navy Recruiting District

Insurance Companies

American Physicians Life
Blue Cross/Blue Shield of Indiana
Fringe Benefit Planners
Physicians Insurance Company of Indiana
The Medical Protective Company

Investment Services

Indiana National Bank/Kimmerling, Myers & Co.
Irwin Union Capital Corporation
Shearson-Lehman-Hutton, Inc.

Laboratory Services

Methodist Hospital of Indiana, Inc.
MetPath Laboratories
Pathologists Associated

Pharmaceutical Companies

DuPont Pharmaceuticals
Eli Lilly & Company/Dista Products Company
Lederle Laboratories
Smith Kline & French Laboratories

Treatment Centers/Organizations

ISMA Commission for Physician Assistance
Indiana Heart Institute
Koala Centers
Reach Rehabilitation/Americana Healthcare

Miscellaneous

Cellular One of Indianapolis
Dairy & Nutritional Council, Inc.
Dietary Enterprises, Ltd.
Dimensions, Inc.
Encyclopedia Britannica, USA
Endless Vacation Travel
ISMA Auxiliary—Jewelry
Indiana Academy of Family Physicians
Indiana Medical History Museum
Indiana Society of Medical Assistants

Spouses to Examine 'Family' Issues, Medical Advocacy

In this election year much attention is focused on family issues—well-baby care, latchkey children and our youths' increasing addiction to alcohol, drugs and tobacco. The spouse program on Saturday, Oct. 22, will be devoted to a discussion of the solutions to these problems.

Rep. John Day, D-Indianapolis, a long-time advocate of social issues, will present his view of what needs to be done at the state level about these problems. An update of SOBRA initiatives to provide prenatal care funding will be presented by Joanne

Martin, Community Partners in Prenatal Care project director at the Indiana University School of Nursing.

Cindy Porteous, director of development for the Ruth Lilly Center for Health Education, will discuss a new facility for teaching youngsters the importance of wellness and how the body functions. The center is currently under construction in Indianapolis.

Julie Newland, ISMA's director of government relations, will continue the program with a review of legislative issues expected to be considered in the upcoming session of the Indiana

General Assembly. She also will recap issues on the national scene.

This session is part of a continuing effort to provide relevant programming that emphasizes the role spouses play as advocates for medicine. An important part of that role is staying abreast of issues that have an impact on the practice of medicine.

The spouse program will begin with a continental breakfast at 9:30 a.m. in Suite 15, followed by the speakers at 10 a.m.



John D. MacDougall, M.D.
President
Indiana State Medical Association
1987-1988

Presidents of ISMA Since Its Organization

Medical Convention	Elected	Served		Elected	Served
*Livingston Dunlap, Indianapolis	1849	1849	*George F. Keiper, Lafayette	1915	1916
Medical Society			John H. Oliver, Indianapolis	1916	1917
*William T.S. Cornett, Versailles	1849	1850	*Joseph Rilus Eastman, Indianapolis	1917	1918
*Ashahel Clapp, New Albany	1850	1851	*William H. Stemm, North Vernon	1918	1919
*George W. Mears, Indianapolis	1851	1852	*Charles H. McCully, Logansport	1919	1920
*Jeremiah H. Brower, Lawrenceburg	1852	1853	*David Ross, Indianapolis	1920	1921
*Elihu H. Deming, Lafayette	1853	1854	*William R. Davidson, Evansville	1921	1922
*Madison J. Bray, Evansville	1854	1855	*Charles H. Good, Huntington	1922	1923
*William Lomas, Marion	1855	1856	*Samuel E. Farp, Indianapolis	1923	1924
Daniel Meeker, LaPorte	1856	1857	*Eldridge M. Shanklin, Hammond	1924	1925
*Talbot Bullard, Indianapolis	1857	1858	Medical Association		
*Nathan Johnson, Cambridge City	1858	1859	*Charles N. Combs, Terre Haute	1925	1926
David Hutchinson, Mooresville	1859	1860	*Frank W. Cregor, Indianapolis	1926	1927
*Benjamin S. Woodworth, Ft. Wayne	1860	1861	*George R. Daniels, Marion	1926	1928
*Theophilus Parvin, Indianapolis	1861	1862	*Charles E. Gillespie, Seymour	1927	1929
*James F. Hibberd, Richmond	1862	1863	*Angus C. McDonald, Warsaw	1928	1930
*John Sloan, New Albany	1863		*Alois B. Graham, Indianapolis	1929	1931
*John Moffett (acting), Rushville	1863	1864	*Franklin S. Crockett, Lafayette	1930	1932
*Samuel L. Linton, Columbus	1864		*Joseph H. Weinstein, Terre Haute	1931	1933
Wilson Lockhart (acting), Danville	1864	1865	*Everett E. Padgett, Indianapolis	1932	1934
*Myron H. Harding, Lawrenceburg	1865	1866	*Walter J. Leach, New Albany	1933	1935
*Vierling Kersey, Richmond	1866	1867	*Roscoe L. Sensenich, South Bend	1934	1936
*John S. Bobbs, Indianapolis	1867	1868	*Edmund D. Clark, Indianapolis	1935	1937
*Nathaniel Field, Jeffersonville	1868	1869	*Herman M. Baker, Evansville	1936	1938
*George Sutton, Aurora	1869	1870	*Edmund M. Van Buskirk, Ft. Wayne	1937	1939
*Robert N. Todd, Indianapolis	1870	1871	Karl R. Ruddell, Indianapolis	1938	1940
*Henry P. Ayres, Ft. Wayne	1871	1872	*Albert M. Mitchell, Terre Haute	1939	1941
Joel Pennington, Milton	1872	1873	*Maynard A. Austin, Anderson	1940	1942
*Isaac Casselberry, Evansville	1873		*Carl H. McCaskey, Indianapolis	1941	1943
*Wilson Hobbs (acting), Knightstown	1873	1874	*Jacob T. Oliphant, Farmerburg	1942	1944
*Richard E. Houghton, Richmond	1874	1875	*Nelson K. Forster, Hammond	1943	1945
*John H. Helm, Peru	1875	1876	*Jesse E. Ferrell, Fortville	1944	1946
*Samuel S. Boyd, Dublin	1876	1877	*Lloyd T. Romberger, Lafayette	1945	1947
*Luther D. Waterman, Indianapolis	1877	1878	*Cleon A. Nate, Indianapolis	1946	1948
Louis Humphreys, South Bend	1878		*Augustus P. Hauss, New Albany	1947	1949
*Benj. Newland (acting), Bedford (v.p.)	1878	1879	*C. S. Black, Warren	1948	1950
*Jacob R. Weist, Richmond	1879	1880	*Alfred Ellison, South Bend	1949	1951
*Thomas B. Harvey, Indianapolis	1880	1881	*J. Wilham Wright, Indianapolis	1950	1952
*Marshall Sexton, Rushville	1881	1882	*Paul D. Crimm, Evansville	1951	1953
*William H. Bell, Logansport	1882	1883	*Wm. Harry Howard, Hammond	1952	1954
*Samuel E. Mumford, Princeton	1883	1884	*Walter L. Porteus, Franklin	1953	1955
*James H. Woodburn, Indianapolis	1884	1885	*Walter U. Kennedy, New Castle	1954	1956
*James S. Gregg, Ft. Wayne	1885	1886	*Elton R. Clarke, Kokomo	1955	1957
*General W. H. Kemper, Muncie	1886	1887	M. C. Lopping, Terre Haute	1956	1958
*Samuel H. Charlton, Seymour	1887	1888	Kenneth L. Olson, South Bend	1957	1959
*William H. Wishard, Indianapolis	1888	1889	*Earl W. Mericle, Indianapolis	1958	1960
*James D. Gatch, Lawrenceburg	1889	1890	*Guy A. Owsley, Hartford City	1959	1961
*Gonsolvo C. Smythe, Greencastle	1890	1891	*Harry R. Stimson, Gary	1960	1962
*Edwin Walker, Evansville	1891	1892	*Maurice E. Glock, Fort Wayne	1961	1963
*George F. Beasley, Lafayette	1892	1893	Donald E. Wood, Indianapolis	1962	1964
*Charles A. Daugherty, South Bend	1893	1894	Joseph M. Black, Seymour	1963	1965
*Elijah S. Elder, Indianapolis	1894		*Kenneth O. Neumann, Lafayette	1964	1966
*Charles S. Bond (acting), Richmond	1894	1895	*Eugene S. Ritner, Van Buren	1965	1967
*Miles F. Porter, Ft. Wayne	1895	1896	*G. O. Larson, LaPorte	1966	1968
*James H. Ford, Wabash	1896	1897	Patrick J. V. Corcoran, Evansville	1967	1969
*William N. Wishard, Indianapolis	1897	1898	Iowell H. Steen, Hammond	1968	1970
*John C. Sexton, Rushville	1898	1899	Malcolm O. Scamahorn, Pittsboro	1969	1971
*Walker Schell, Terre Haute	1899	1900	Peter R. Petrich, Attica	1970	1972
*George W. McCaskey, Ft. Wayne	1900	1901	*James H. Gosman, Indianapolis	1971	1973
*Alembert W. Brayton, Indianapolis	1901	1902	Joe Dukes, Dugger	1972	1974
*John B. Berteling, South Bend	1902	1903	Gilbert M. Wilhelmus, Evansville	1973	1975
Jonas Stewart, Anderson	1903	1904	Vincent J. Santare, Munster	1974	1976
*George I. MacCoy, Columbus	1904	1905	*John W. Beeler, Indianapolis	1975	1977
*George H. Grant, Richmond	1905	1906	*Eh Goodman, Charlestown	1976	1978
*George J. Cook, Indianapolis	1906	1907	James A. Harshman, Kokomo	1977	1978
*David C. Peyton, Jeffersonville	1907	1908	*Arvine G. Popplewell, Indianapolis	1978	1980
*George D. Kahlo, French Lick	1908	1909	Alvin J. Haley, Carmel	1979	1981
*Thomas C. Kennedy, Shelbyville	1909	1910	Martin J. O'Neill, Valparaiso	1980	1982
*Frederick C. Heath, Indianapolis	1910	1911	John A. Knotte, Lafayette	1981	1983
*William F. Howat, Hammond	1911	1912	George L. Lukemeyer, Indianapolis	1982	1984
*A. C. Kimberlin, Indianapolis	1912	1913	Lawrence E. Allen, Anderson	1983	1985
*John P. Salb, Jasper	1913	1914	Paul Siebenmorgen, Terre Haute	1984	1986
*Frank B. Wynn, Indianapolis	1914	1915	Shirley Thompson Khalouf, Marion	1985	1987
*Deceased			John D. MacDougall, Beech Grove	1986	1988



ISMA TRUSTEE DISTRICTS

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Board of Trustees

MICHAEL O. MELLINGER, M.D.
CHAIRMAN

In this, my last report as chairman of your Board of Trustees, I want to focus on problems I see as significant at the time of our October meeting. Your Board has dealt with many tough issues over the past year and I refer you to the reports of the individual trustees for details.

Writing a report two months before publication requires a little crystal ball gazing, but I see the following issues as being timely.

Mandatory Assignment

This one is not going away, either in Indiana or nationally. It has become a *raison d'être* for AARP groups throughout the country.

Legislators everywhere believe no elderly citizen should be denied care because he or she cannot pay for it. From the physician's perspective, we all agree no elderly citizen should go without care because a wasteful bureaucracy cannot deliver what it promised. Set aside the rhetoric for a moment and you find we are all saying the same thing. No one is arguing that the young working public should pay all the medical bills for the elderly rich, but that is exactly what will happen if mandatory assignment tied to licensure becomes law as it has in The Commonwealth of Massachusetts.

Physicians have the opportunity to take the lead in developing a program for care of the aged indigent who do not qualify for Medicaid. I'm not talking about something that will further erode physician income. Almost all of us are already accepting assignment for people we know to have financial difficulties. Over 60 percent of the Medicare claims in Indiana are filed on an assigned basis.

Hopefully, by October we will

have a voluntary assignment "card" pilot program in place somewhere in Indiana. The Fort Wayne Medical Society is also working toward this end in Allen County. We are trying to put in place a system whereby low-income elderly can be easily identified without compromising their self-respect. I urge all Indiana doctors to support such a voluntary program if and when it becomes available. I am convinced mandatory assignment tied to licensure is the alternative if voluntary programs fail.

Medicare Reimbursement Problems

A small group of physicians from Marion have succeeded in focusing reimbursement inequities involving Medicare and Medicaid. The Grant County Patient Advocacy Committee is an excellent example of what can be done at the local level. ISMA encourages this type of local effort and will offer appropriate assistance.

Monthly meetings involving top-level management of Blue Cross/Blue Shield of Indiana, ISMA and interested parties are getting under way. This dialogue has not been as successful in the past as we would like, but this marks the first attempt for seven years. I am cautiously optimistic about this situation. Many of the faces have changed and hopefully some of the old animosities forgotten. This alliance has huge potential for identifying and rectifying Medicare and Medicaid reimbursement problems in Indiana.

Quality of Care

William Roper, M.D., head of the Health Care Financing Administration, has avowed new emphasis on quality. Dr. Roper (a pediatrician by training) operated on two basic premises: (1) quality of care delivered varies; and (2) differences in quality are measurable. I agree with his first premise, but am skeptical about his second. I think it depends on who is

doing the measuring. If the primary concern of the one doing the measuring is cost containment, then we are about to see another new HCFA definition for an everyday word. We have already seen a new meaning for the words usual, customary and reasonable. It is imperative that organized medicine be involved with the process of measuring quality of care.

I wish to thank each member of the Board of Trustees for the unfailing courtesy extended to me and to each other. These people spend untold hours each year representing their physician constituents and they do it awfully well. Although there are always problems, you can be certain the practice of medicine in Indiana would be more painful without the efforts of leaders such as your trustee.

Executive Committee

JOHN D. MACDOUGALL, M.D.
CHAIRMAN

Three major issues commanded the Executive Committee's attention this year: Resolution 87-22, the Insurer Performance Review Network; Resolution 87-29, the Physician Recovery Coordinator Position, and the Medicare Assistance Program (MAP) pilot project.

The first two evolved from House of Delegates' actions, which were referred to the Board, and which the Executive Committee examined for the proposals' fiscal impact. The concept for MAP grew out of some similar programs developed by other state and county medical societies.

The Executive Committee examined the Insurer Performance Review Network from the standpoints of program options, personnel requirements, economics of the various proposals discussed and necessary funding. In developing options, the committee invited William E. Fry, director of the Ohio State Medical

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Association's department of professional relations, to explain OSMA's ombudsman program which provides similar services to Ohio physicians.

Richard King, ISMA executive director, met with members of the Grant County Medical Society and representatives of the Grant County Insurance Performance Review Committee and Patients Advocate Committee. To clearly define insurance review on a statewide basis, ISMA hired Kimmerling, Myers & Company, Inc., to conduct a survey. Our goal was to target our efforts to specific problems so we could best design a program to serve the needs of our members.

At this writing, the survey results are being tabulated.

Physician Recovery Coordinator

The Executive Committee authorized staff to clearly define the role of the physician recovery coordinator and develop a job description.

Using both, the staff conducted job interviews, and at midsummer, negotiations began for hiring a physician assistance coordinator.

Medicare Assistance Program

The Executive Committee recommended to the Board of Trustees that a voluntary Medicare assignment program pilot project be conducted. The purpose of the project is for physicians to voluntarily accept Medicare assignment for low-income older persons in their community. Many physicians already do this, but sometimes physicians have difficulties identifying older persons who cannot afford to pay for medical care. With MAP, this is not a problem. MAP sets up income guidelines and a process for determining which patients cannot afford the cost of medical care.

Elements of MAP include an income verification process conducted by representatives of such groups as the area councils on aging, senior citizens or the American

Association of Retired Persons, for example. Persons certified to participate in the program must meet income guidelines previously established. When persons qualify, they receive a card which they show to their doctor when seeking medical care.

Physicians voluntarily agree to accept assignment for those patients certified by the program.

ISMA's motivation for pursuing this pilot project is simply that it is the right thing for our association to do. Older people make up a larger segment of our population and use a higher percentage of medical care than any other age group. They are, perhaps, the most loyal patients that physicians have. The Medicare Assistance Program is certainly an appropriate way to make sure that low-income older people have access to affordable medical care.

Initially, three counties were selected as possible locations for the pilot project. Staff reviewed such variables as the number of physicians, Medicare population, physician-patient ratios, and per capita incomes in each county.

The logistics of this program are important. Not only must doctors in the selected county be asked to participate, but we must gain the attention and acceptance of older persons who will benefit from the project. To fulfill these needs, I spoke with doctors at both the Ninth District meeting and the Montgomery County Medical Society's August meeting. Earlier this summer, I attended the Area 4 Council on Aging Legislative meeting to present the concept to Area 4 representatives and to seek their assistance with developing guidelines for the pilot project.

This is a summary report written as of Aug. 1 to meet publication deadlines. ISMA will update MAP's progress in ISMA REPORTS and INDIANA MEDICINE.

I wish to thank the Executive

Committee members and staff for their assistance during my term as ISMA president.

First District Trustee

E. DEVERRE GOURIEUX, M.D.

I am pleased to report to you on some of the activities we have participated in as members of the First District Medical Society, a component of the Indiana State Medical Association.

First district physicians make the time commitment required to assure that input from the first district is carried to the state level. As you know, a trip from the first district to Indianapolis is somewhat of an all day affair. The ISMA voted in February 1987 to double the mileage reimbursement for first district physicians attending ISMA commission meetings. I personally wish to thank our first district physicians for their continued interest and commitment in representing the views of all district physicians.

The ISMA convention was held in Indiana in November 1987. One of the most outstanding accomplishments of the House of Delegates was the referral to the Board of Trustees of a resolution calling for the establishment of a physician recovery coordinator. Citing the need for a coordinated statewide effort to assist in the identification and treatment of impaired physicians, the ISMA will serve as a focal point for the coordination of physicians assistance programs throughout the state. In early 1988, the Vanderburgh County Medical Society's Board of Directors voted to form a Physician Assistance Committee. This committee will be available to all First District physicians needing assistance.

A number of first district physicians were involved in legislative efforts this year. The Vanderburgh County Medical Society coordinated

a legislative dinner in December with first district physicians and legislators with constituents throughout the district. ISMA legislative staff was in attendance and briefed physicians on anticipated legislation to be introduced.

The ISMA was successful on a number of bills affecting the practice of medicine. One such bill would have substantially changed the medical review panel process of the Medical Malpractice Act tipping the scales in favor of the plaintiff. ISMA battled the Trial Lawyers Association on this issue and won. For this year, the Indiana Medical Malpractice Act remains unchanged. ISMA also was successful in deleting language in one bill which would have mandated continuing medical education for both physicians and dentists on AIDS. Much of the credit for the ISMA legislative successes must be directed to you, the physicians and auxiliaries, who inundated legislators with the medical opinion on the proposed legislation.

I have been extremely pleased by the continued involvement of first district physicians in the legislative process. I encourage all of you to become involved in every aspect of organized medicine. As physicians continue to come under fire, it is more important than ever that we speak with a united voice through our associations.

Second District Trustee

PAUL WENZLER, M.D.

Friday, May 20, 1988, the Second District Medical Society meeting was held at the Elks Club in Vincennes. It was a beautiful, sunny day: perfect for those who took advantage of the golf outing.

At the business meeting, I reported on ISMA activities and Jerome Melchior, M.D., alternate trustee, commented on activities in the Vincennes area. Richard King,

ISMA executive director, talked about medical activities at the national level. He has done an excellent job leading the ISMA. John MacDougall, M.D., ISMA president, is a capable leader and good standard-bearer for the organization. George Rawls, M.D., ISMA treasurer, presented a treasurer's report and discussed the fiscal impact of new programs such as patient advocacy, insurer performance review and the physician assistance coordinator.

ISMA's president-elect, Fred Dahling, M.D., discussed the upcoming annual meeting at the Radisson Hotel in October and urged attendance. C. Dyke Egnatz, M.D., spoke briefly about submitting resolutions early for the House of Delegates.

The evening program was well attended by physicians and their spouses. James G. Newland, Jr., chaired an excellent political discussion by Craig Campbell (R) and William Schreiber (D).

Second district officers for 1988-89 are William Nice, M.D., president, and Leland Matthews, M.D., treasurer. The second district meeting will be in Bloomington in 1989.

Dr. Melchior and I will continue to serve the Second District Medical Society and we urge all second district members to attend the ISMA House of Delegates meeting in October. See you there!

Third District Trustee

THOMAS NEATHAMER, M.D.

Well, it is time for the old horse to go out to pasture and turn things over to the young colts that still think they can win the Derby. After this convention your trustee will be Gordon Gutmann, M.D., of Jeffersonville. I am sure he will be a credit to our district. With mandatory assignment, more stringent sanctions by the PROs, triplicate prescriptions, catastrophic care in

Medicare and forced generic substitution, not to mention regulation of diet pills and increased power of the Medical Licensing Board, I do not envy him his job.

One very positive note in our battle with the insurance companies and the federal government has been the Patient Advocacy Committee. The idea began in Grant County and has spread to other areas of the state and other states. Basically, this committee takes on the battle of poor payment or no payment to the patients for services rendered and publicizes its activities to our Senators, Congressmen and the general public. It again places physicians as the patients' advocates where we really belong. Your board voted to support this concept and assist Grant County and others in this battle in January.

The time has come to quit compromise, concession and cooperation and take the offensive against the Feds and for our patients. With the Governor of Taxachusetts possibly in the White House next year, we can look forward to our worst years.

It reminds me of the fellow who said: "They told me to cheer up. Things could be worse. So, I cheered up and, sure enough, they got worse."

Fourth District Trustee

WILLIAM E. COOPER, M.D.

The Fourth District Medical Society's annual meeting was held May 4 at Greensburg Country Club in Greensburg, Indiana. Attendance at the meeting was very good. We will continue to strive for better attendance at this very important meeting.

When visiting each of the county medical societies in the fourth district, I have tried to emphasize to them the importance of recognizing and responding to the *Legislative*

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Alerts which are sent by Julie Newland, director of ISMA's Government Relations Department. In my opinion, we are going to see plenty of *Alerts* during this next "long" session of the Indiana General Assembly and we ought to read them and make our opinions known to our legislators.

We can expect the Trial Lawyers Association to try to alter our malpractice bill and we must be ready to counteract that or any other eventuality. I think we can also expect the matter of tying physician licensure to acceptance of Medicare patients (e.g. Massachusetts) to be reintroduced. We must be able to react to these political moves. No one else will do it for us!

By now most of you probably know that the Controlled Substance Advisory Board met June 24 and voted to establish a triplicate prescription program for Schedule II controlled substances. The program is scheduled to take effect July 1, 1989. ISMA's Board of Trustees voted overwhelmingly against this program because it will monitor only about 0.6 percent of total prescriptions written. The board felt the triplicate prescription program's goal was to reduce consumption of Schedule II drugs — a goal they feel is not in favor of the patient's well-being and is an intrusion into the doctor/patient relationship. ISMA will continue to keep us informed of the start-up of this program.

Next year's district meeting will be held at Dearborn Country Club in Lawrenceburg during the first week in May. I look forward to seeing you all then.

Remember, the ISMA annual meeting will be Oct. 21-23 in Indianapolis. Please mark your calendars and plan to attend.

Fifth District Trustee

BENNY S. KO, M.D.

As a dues-paying member of an

organization, it is only prudent to ask what the organization has done for its membership. I am going to structure this report as an answer to that rhetorical question.

In 1987, ISMA has again performed an exemplary task of serving its physician members, most notably but not exclusively in the legislative arena. Two attempts were made during this past short legislative session to drastically alter the medical review panel process in favor of the plaintiff. On both counts, ISMA was able to rally enough support from sympathetic legislators to defeat the proposals. On another front, the proposal to limit physician dispensing of drugs also has failed to receive a committee hearing. Indiana would have gone by the way of Massachusetts had SB 286 become law. I am here of course referring to the infamous proposal to tie mandatory assignment to medical licensure. It also did not receive a hearing. We physicians in Indiana are not all self-serving in our legislative efforts. Through our support and input, a number of public health issues have either become or are on their way to become laws. From the confusion we have all witnessed during the early days of the AIDS epidemic, we now have a reasonable package of guidelines in reporting, handling and interaction concerning this disease and its victims — SEA 9, otherwise known as the Comprehensive AIDS Package. We have again demonstrated our concern for the health of our fellow citizens by our support of SEA 235 which would prohibit the promotional distribution of tobacco to minors. The bill is almost certain to become law at the time of this writing. SEA 415 was introduced on behalf of ISMA as a House of Delegates resolution which would make it a felony for anabolic steroids to be dispensed for purposes of athletic performance. It was also approved unanimously.

In other areas, ISMA has up-

graded as well as expanded its membership services. If you have inspected the list of services provided, you will find all kinds of savings on insurance, traveling, rental, phone service, banking, just to name a few.

In the academic aspects, I have found *Indiana Medicine* to be an excellent scientific journal. Many of its articles are well researched and written providing a convenient and pertinent update as well as a review for the practicing physicians of Indiana.

Why have I gone to great length to tell you about the organization of which you are already a member? First, it is easy for us to overlook and forget the enormous effort on the part of the ISMA staff as well as your elected colleagues to accomplish what I just outlined. At a time when independent American physicians are being squeezed between liberal-socialist politics and big, corporate-style health care systems, your state organization has done right and stood firm by you. So when its time to renew your membership, do so with a smile. If you have more to give than your membership dues, then do so. And if you know of physicians who do not belong to the organization, urge them to join by telling them what ISMA has done for them in the past and what we need ISMA to do for them in the future.

I am pleased to report that this year's fifth district meeting was very well attended, as was the very effective legislative dinner in Vigo County. This annual dinner provides us a unique opportunity in a relaxed setting to discuss health and medical issues with our elected representatives.

As my term is winding down, I would like to thank all of you for electing me as your district trustee. I enjoyed these years wholeheartedly and I will most decidedly continue to serve and support the organization and its cause.

Sixth District Trustee

C.G. Clarkson, M.D.

This year the Sixth District Medical Society met at the Westwood Country Club in New Castle on May 11, 1988. Approximately 30 members were present for the meeting and 65 members and guests were present for the evening meal. William Nesbitt, M.D., president of the sixth district, called the meeting to order. Robert Warren, M.D., read the minutes and the treasurer's report from the previous meeting on May 13, 1987. The minutes and the treasurer's report were approved and accepted. The balance as of May 1 was \$2,763.40. Dues collected were \$1,632.00. Expenses were \$1,626.00. An election of officers was then held.

Elected were: Robert Warren, M.D., Richmond, president; Daniel P. Rains, M.D., New Castle, president-elect; Steven Dellinger, M.D., Greencastle, secretary/treasurer; C.G. Clarkson, M.D., Richmond, trustee.

The next meeting will be the second Wednesday of May 1989 in Greenfield (Hancock County).

The following dignitaries were present: John D. MacDougall, M.D., president of ISMA; Fred Dahling, M.D., president-elect of ISMA; Shirley T. Khalouf, M.D., past president of ISMA; Michael O. Mellinger, M.D., chairman of ISMA's Board of Trustees; Marvin E. Priddy, M.D., ISMA delegate to the AMA; John A. Knote, M.D., ISMA delegate to the AMA; Richard Reedy, M.D., ISMA alternate delegate to the AMA; Richard R. King, M.D., Executive Director of ISMA; Herbert C. Khalouf, M.D., chairman of ISMA's Executive Committee; and, George Rawls, M.D., ISMA treasurer.

Each was introduced and allowed to present a report. Dr. George Rawls gave a brief report on the financial status and then announced a proposed dues increase and reasons

for its proposal. The increase will be \$50 the first year and \$25 each year for the next five years. Reports of officers and topics from members touched upon a number of subjects including disparity of Medicare payments to hospitals, dumping of Medicare patients to extended care facilities in Indiana from other states, Peer Review process, Medicare mandated care, paid professional testimony for PRO, Medicare disallowed payments, multiple prescription copy proposals, mandatory assignment, relative value fee schedule, value of IMPAC and AMPAC and other subjects.

David W. McKenney and Ken Badger from PICI presented a program on "How to Reduce Claims, Talk To Me!" Many good points were made.

The business meeting ended at 6 p.m. Hors d'oeuvres and refreshments were provided until dinner. Hors d'oeuvres and refreshments were sponsored by the Physicians Insurance Company of Indiana, American Physicians Life and the Williams Agency.

Dinner was served to the approximately 65 members and guests in attendance. An after-dinner speaker, John Loskowski, expounded on his experiences while a student and basketball player under Bobby Knight. He provided insight and understanding concerning Bobby's outbursts, judgments and approaches to the referees. The evening was enlightening.

The members of the sixth district and I continue to commend the activities of Bob Sullivan as field representative to the district. His presence continues to be felt in reference to the activities and business of the Indiana State Medical Association. I continue to welcome ideas and suggestions from my district members and hope to be able to convey their wishes as trustee of the sixth district. I wish to thank the members of the sixth district for

re-electing me as trustee to the ISMA. Also, I wish to commend Ray Haas, M.D., for his attendance at the Board of Trustees meetings, especially on those dates when I have been unable to attend.

Seventh District Trustees

DONNA MEADE, M.D.
JOHN RECORDS, M.D.

Your two seventh district trustees have been active this year at the annual meeting, all board meetings and ISMA's April leadership conference. We have enjoyed our personal visits with the Hendricks County Medical Society and our two organizational meetings for the Morgan County Medical Society. With the help of ISMA staff, especially Bob Sullivan, we reactivated the Morgan County Medical Society.

The seventh district meeting was held May 18 at the Hilton on the Circle in Indianapolis. George Donally, M.D., of Morgan County, was elected president-elect for 1988-89. Because of increased growth, the seventh district now qualifies for a third trustee and alternate trustee. Peter Winters, M.D., present alternate trustee, was elected to be the third trustee. Charles McCormick, M.D., was elected to serve as the third alternate trustee. Willis Stogsdill, M.D. and Ron Blankenbaker, M.D., were elected to fill the two vacant alternate trustee positions.

John MacDougall, M.D., ISMA president, discussed quality assurance and the sanctions that may come, Medicare reimbursements and child and adolescent health. Fred Dahling, M.D., ISMA president-elect, encouraged continuing support of IMPAC and AMPAC. George Rawls, M.D., ISMA treasurer, reported a dues increase will be recommended at the next House of Delegates. The

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recommendation will be for a \$50 increase the first year and \$25 increases each year for three succeeding years.

We visited Washington, D.C., July 6 on a legislative/lobbying trip and met with Sen. Richard Lugar, Rep. Dan Burton, and Rep. Phil Sharp. We expressed the seventh district's members' concerns regarding the Medicare system, MAAC charges, and red tape which makes it difficult for physicians and patients to receive Medicare reimbursement.

We have also been actively representing the seventh district legislatively at the state and district levels. We delivered checks and offered our services to Marion County Reps. Leeuw, Mullendore, and Jones, and on our recommendation, Francis Price, M.D., Sr., is serving on the IMPAC Board.

During the past year, many topics of concern have arisen. One of these was Medicare reimbursement and the development of the relative value scale which was developed at Harvard. The relative value scale uses four factors as a base: length of training, amount of time required by procedures, intensity of effort and cost of overhead for providing the service. By using this criteria, a unit value will be developed for each CPT code.

Other issues of concern this year included the triplicate prescription program for Schedule II controlled substances. This program was opposed by ISMA, but took effect July 1. Another issue discussed this year was the establishment of a program in which financially needy Medicare patients are issued a card that establishes them eligible for assignment.

We would encourage continuing support for ISMA and AMA memberships.

Next year's report will be in three parts since there will be three trustees and three alternates for the seventh district.

Eighth District Trustee

WILLIAM VAN NESS, II, M.D.

Members of the eighth district held their annual meeting at Anderson Country Club on June 2, 1988. At the business meeting, John V. Osborne, M.D., was elected to the position of alternate trustee. Following the business meeting, an excellent panel discussion was held with each of our county presidents giving an update on the problems faced in their particular county. This, once again, provided lively discussion among district members and state leaders in attendance.

That evening, a lovely dinner was enjoyed by all which was followed by our featured speaker, Lt. Governor John Mutz. He provided us with an overall look at the status of the State of Indiana along with his recommendations for the future.

As has been our recent tradition, leaders of the individual counties will continue to meet every three months to discuss important issues.

Ninth District Trustee

MAX N. HOFFMAN, M.D.

PRO activities continue to be a major concern to all practicing physicians. During the past four years, I have served as ISMA liaison to Peerview meetings. I attended a legislative policy session in Washington, D.C., and will summarize my observations regarding planned future PRO activities.

1. In spite of budget constraints now facing Congress, PRO funds have been and are expected to be available as required to support additional PRO functions.
2. Congress continues to ask for review of medical services to Medicare patients and future plans will include outpatient care in nursing homes, home health

agencies and ultimately (in 2-3 years) physicians' offices. Office-based review is currently being done in Ontario, Canada, in a pilot program.

3. Generic screens will expand from dealing only with utilization and quality of care, and add the factor of necessity of services (i.e., carotid endarterectomy, coronary angiography/bypass surgery).
 4. PRO activities will likely include new educational functions to make consumers aware of options available to them under the Medicare program. As a result, patients may become more judgmental and demanding.
 5. In the future, sanctions will prescribe educational programs to assist in the correction of the deficiency identified; thereby permitting the affected M.D. to continue in practice.
- Our annual district meeting at Ulen Country Club in Lebanon was hosted by Boone County. The meeting was well attended and was highlighted by the election of Adrian Lanning, M.D., of Noblesville, as trustee and Steven Tharp, M.D., of Frankfort, as alternate trustee. This action insured the ninth district of excellent future representation on the board.

Tenth District Trustee

NICHOLAS L. POLITE, M.D.

Among our major activities in the tenth district has been our concern over the problems faced by our membership in dealing with health insurance providers administering Medicare and Medicaid in Indiana. We have surveyed our members to determine the areas of common problems and concern. We have communicated the results of that survey to our legislators. We have voiced our support of the establishment of a state oversight committee

to watch over companies that administer Medicare and Medicaid. We have also urged that the Interim Health committee schedule a public hearing in the Lake and Porter County area in order to allow our area's high percentage of Medicare/Medicaid patient and physician recipients to have a personal opportunity to express their concern on this issue. We plan to continue our efforts in this regard; however, we are quite impressed with efforts by the president and administrative staff of the ISMA to resolve existing difficulties between the physicians and Blue Cross/Blue Shield.

We have also made plans for our annual meeting. Last year's meeting in Hammond featured the keynote speaker of Donald L. Blinzinger, then administrator, Indiana Department of Public Welfare. Mr. Blinzinger's discussion of the health care issues that are of major concern to his department was well received and left our members assured that many of the concerns of the Department of Public Welfare are similar to our own.

This year our annual meeting and election of tenth district officers was held in Merrillville. Our keynote speaker was as interesting and informative as our last. In addition to the usual business meeting and speaker, the Lake and Porter County auxiliaries planned a special program for our enjoyment.

In cooperation with the ISMA, we participated in a districtwide membership drive in the spring. Several of our members gave up some of their leisure time to contact nonmembers and discuss the benefits of membership with them. Our efforts have proven very successful and new members are joining us at a healthy rate. We would like to express our gratitude to the president and staff of the ISMA for their help in this endeavor.

Although a resolution that action be taken to resolve the problem of

discriminatory rates of malpractice insurance between Lake County and the rest of the state was introduced by the tenth district and subsequently passed by the House of Delegates during the 1987 session, we have failed to see any action that demonstrates strong efforts by the ISMA to do so. It is our sincere hope that a solution will be found so that the matter will not need to be discussed at the 1988 meetings.

Both the trustee and alternate trustee have been active in tenth district affairs and ISMA responsibilities and look forward to continuing those efforts in the future

Eleventh District Trustee

JACK HIGGINS, M.D.

The eleventh district's 1987 meeting was hosted by the Cass County Medical Society in Logansport in September. The turnout was good, but I would encourage all members to attend the 1988 district meeting to be held in Carroll County. During the last meeting, Larry Musselman, M.D., Marion, was elected alternate trustee and I was elected trustee.

In my view, activity in the legislative arena remains the most important function of ISMA and the AMA. They continue to protect our membership from further encroachment by government, insurance companies and industry. ISMA — through the efforts of our executive director, Commission on Legislation, and Department of Government Relations — has done an excellent job, but they must have support from individual members. I plead with each member to contribute to IMPAC and AMPAC and to participate in the key contact program. We need your participation.

The Board of Trustees continues to examine the director of the Future

Planning Committee's report presented last year and is attempting to implement the recommendations in a timely manner. One of the recommendations of the Strategic Plan was that each district hold quarterly meetings with the trustee and county officers. We attempted to establish this program last year, but had to cancel it due to lack of attendance. We shall attempt to establish the program again this year and would encourage the county officers to respond and attend.

ISMA — under the direction of Mike Huntley — continues to develop membership services ranging from discounts on new cars to reimbursement assistance, business advisory and tax services. Utilization of these services by the membership produces non-dues income to ISMA and allows us to keep dues levels down.

Dr. Musselman and I thank you for allowing us to serve you at the Board level and we solicit your input in our efforts.

Thirteenth District Trustee

STEVEN M. YODER, M.D.

During the past year, the thirteenth district has operated pretty much as usual. Our annual meeting was held Sept. 9, 1987, at Knollwood Country Club in South Bend. Poor attendance continues to be a problem.

I have noticed this year that I have been receiving more calls from members wanting to know who specifically to contact at ISMA in regard to some of the problems they are having with their practices. I feel that this desire for information from ISMA may be a sign of an increase in members' recognition of the ISMA's importance and usefulness.

Several thirteenth district members have met with Congress-

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man Hiler to discuss our problems with medicine and governmental interference or "assistance," as it may be. I still find a large amount of apathy regarding the problems we are having, mainly because physicians feel there is little they can do to change what insurance companies and federal, state and local governments force us into.

I feel the image of ISMA is improving in the eyes of thirteenth district members. This stems mainly from vigorous efforts to protect the medical malpractice law and other legislative issues that we are able to influence.

AMA Delegation

MARVIN E. PRIDDY, M.D.
CHAIRMAN

The Indiana Delegation to the AMA continually strives to represent Hoosier doctors and their interests at the AMA House of Delegates. Even though the 12-member delegation is small in comparison to other state delegations, our voice is heard through testimony in reference committees on issues affecting our practice and our patients and on the floor of the House when we sound our opinion of a reference committee recommendation. The Indiana Delegation remains visible through its active participation in the House of Delegates process.

Indiana's voice in the House of Delegates is also heard as a part of the very effective Great Lakes States Coalition. This coalition is made up of seven states geographically surrounding the Great Lakes, Indiana, Illinois, Michigan, New Jersey, New York, Ohio and Pennsylvania. Participating in this group affords us the opportunity to discuss issues of common concern and interest with six states who have larger delegations. Indiana was privileged to host the Great Lakes

States Coalition at both the 1987 interim meeting in Atlanta (Dec. 6-9) and the 1988 annual meeting in Chicago (June 26-30).

Our year started with a new addition to the delegation. Richard Reedy, M.D., Yorktown, was elected by the ISMA House of Delegates to fill the alternate delegate position vacated by Vincent Santare, M.D., Munster, in 1987.

Interim Meeting

Responding to actions of the ISMA House of Delegates in November, the Indiana Delegation introduced two resolutions to the AMA. Both resolutions were referred to the AMA Board of Trustees. The first (ISMA Resolution 87-24) requested the AMA to review Medicare's definitions of the terms "usual, customary, prevailing and reasonable." The resolution challenged the AMA to seek changes in those definitions to make them conform to common usage which cannot be misunderstood or misconstrued by patients, physicians or others.

The second resolution introduced by Indiana's delegation (ISMA Resolution 87-25) asked the AMA to urge hospital medical departments and medical specialty organizations to encourage cross-training among specialties and provide access to medical education for all specialties. Despite an original recommendation by the reference committee not to adopt this resolution, the Indiana Delegation was successful on the House floor in obtaining referral to the Board.

Among the 221 items of business included for consideration by the AMA delegates were problems associated with physician reimbursement under Medicare, PRO regulations, professional liability, and the complex social, ethical and medical aspects of the AIDS epidemic.

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Perhaps the most debated and

controversial issue of the 1987 annual meeting was a proposal by the AMA Board of Trustees to implement a pilot program creating a new category of bedside caregiver. This new caregiver would be called a registered care technologist (RCT) and was proposed by the Board as a possible solution to the nursing shortage.

As proposed, an RCT would be assigned tasks which improve patient comfort in hospitals, long-term care facilities and, with advanced certification, intensive care units. The House referred the plan for action to the Board giving them the authority to set up pilot projects to train RCTs at various hospitals. An RCT could begin work after two months of training while receiving more advanced on-the-job training. The Indiana Delegation disagreed with the Board's proposal to add an additional tier to the health care system. We unsuccessfully attempted to change the nature of the proposal from one of action to one requiring further study to more thoroughly examine all possible solutions to the nursing shortage.

Other House actions include a \$25 AMA dues increase; halting lower DRG payments to rural hospitals than their urban counterparts; and, a recommendation that all states initiate contact tracing to stop the spread of the AIDS virus. The House also adopted a Board of Trustees report dealing with the war against drugs. The report urges the federal government to increase the number of drug treatment programs, upgrade programs to educate adolescents about drugs and allow private physicians to treat opiate addicts with methadone.

A number of resolutions were considered regarding problems physicians are having with Medicare's MAAC provisions. The House adopted a policy that calls on the AMA to:

1. Seek repeal of the MAAC provi-

- sion;
2. Support federal legislation rectifying Medicare contractual inequities with physicians and patients;
3. Establish principle of freedom contract in the practice of medicine;
4. Challenge the provisions, laws and regulations forcing assignment for laboratory and diagnostic procedures;
5. Continue to oppose differential treatment of "participating" and "non-participating" physicians under Medicare; and,
6. Work to allow physicians to treat Medicare patients outside the regulatory constraints that threaten the physician patient relationship.

The House approved a major report calling for significant reform in the Medicaid program that would create basic national eligibility and benefits standards, eliminate existing categorical requirements and create adequate payment schedules.

Our resolution introduced at the 1987 interim meeting concerning the federal definition of "usual," "customary," "prevailing," and "reasonable" will be considered by the Board of Trustees at its October 1988 meeting. The results of that meeting will be reported to the House of Delegates at the 1988 interim meeting.

Action on our second resolution concerning resident physician education was contained in Report A of the Council on Medical Education. The Council does not feel that the AMA's urging of reluctant physicians to participate in education of residents is an effective approach to the concerns which prompted submission of this resolution. It is their belief that the responsibility for assuring the integrity of the educational program and compliance with both general and special requirements lies with the sponsoring institution. In

order for these programs to maintain accreditation, they must include the necessary educational and supervisory services. The House adopted the council's report with the following amendment in lieu of the resolution: "The Council urges concerned program directors and sponsoring institutions to take prompt and direct action, and reminds all physicians of their moral responsibility to teach."

The House elected Alan Nelson, M.D., Utah, president-elect and re-elected John Clowe, M.D., New York, speaker of the House. Daniel Johnson, M.D., Louisiana, was re-elected vice-speaker. All incumbent board members were reelected and Frank Walker, M.D., Michigan, was elected to fill the unexpired term of Dr. Nelson.

It is an honor to represent Indiana in the AMA House of Delegates. I wish to thank the other members of the delegation for their support and active participation.

Editor, Indiana Medicine

FRANK RAMSEY, M.D.
EDITOR

The budget is close to being in balance. Allocation of dues in the final quarter will correct a shortage of income of about \$4,000. Salary items are now about \$1,000 above budget due to the necessity to enlarge the staff.

Income from all categories of advertising, from subsidies on scientific articles, from the I.U.S.M. CME articles, and non-member journal subscriptions are all ahead of the budget. Subscriptions by exempt members and Physician's Directory income are down moderately.

During this year our circulation exceeded 7,000 for the first time.

We have received submitted articles in about the correct number,

covering clinical medicine, medical history, medico-legal and socio-economic subjects.

Martin Badger, our managing editor, has been ill for several months and has been able to work only part-time. We are employing new staff members. Members of ISMA's Public Relations Department have been of inestimable aid and assistance during the difficult time.

We have decreased the size of each issue by several pages and have lengthened the time accepted articles spend on the waiting list. Some submissions have been returned with an invitation to re-submit later. Usually INDIANA MEDICINE is mailed on the tenth of each month. This date has been later in the month, but the mailing date is now close to being back to normal.

The association has been planning for a year or more to adopt the new desktop publishing mechanism. This type of magazine designing is performed with the aid of computers and laser printing for producing a camera-ready copy of each completely designed page for the use of the printer for offset printing.

This eliminates almost all typesetting. The basic computer tools are expensive, but the savings on typesetting, pasteup and design will pay for the equipment in about one year. After that, the saving is an annual affair.

The ISMA newsletter, ISMA REPORTS, is now composed by the desktop publishing method. Later, INDIANA MEDICINE will share in this advantage.

ISMA Executive Director

RICHARD R. KING, II

The year from October 1987 to October 1988 has been a year of substantial challenge and change for Indiana physicians and the Indiana State Medical Association.

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The Board of Trustees and Executive Committee accomplished the established 1987-88 institutional goals of the Strategic Plan and are striving to complete the remaining long-range goals.

The 1987 annual meeting of the House of Delegates directed the Board of Trustees to explore the establishment of a system to assist physicians with their reimbursement problems with third party payors. That particular proposal has dominated the Board and Executive Committee agendas since October 1987. The issue of third party reimbursement for physician services has been foremost on the minds of physicians at our meetings. The federal and state governments with third party payors continue to strike at the sacred relationship between the patient and physician. Patients want what is best for their health and well-being. The physician is the person who can assist the patient in making those health decisions and advocate on the patient's behalf to secure the appropriate level of services. The Executive Committee will recommend a course of action to the Board at our annual meeting.

The 1987 House of Delegates expressed the desire to establish a part-time physician coordinator of the Commission on Physician Assistance. A physician has agreed to accept that responsibility on a part-time basis to serve as the Medical Director of ISMA's program. I am very enthusiastic that our program can help those members and their families who are suffering from the ravages of alcohol and drug use.

Dr. John MacDougall, president of ISMA, has maintained the strength to meet the demands placed upon him as ISMA spokesperson. His focus, as outlined in his inaugural speech, was upon membership recruitment at all levels of the medical federation, involvement in

the political process through promotion of IMPAC and development of a pilot project called Medicare Assistance Program (MAP) for needy Hoosier senior citizens. We have opened wide the doors of communication with numerous senior citizen groups regarding the issues of quality of care and the cost of delivering the world's best health care.

The public policy forum in Congress and the Indiana General Assembly, and public opinion are where ISMA has placed its energies to service the public health and medical community. Numerous members of ISMA have participated in our legislative dinners throughout the state. Our government relations staff, Julie Newland, Mike Abrams, Duane Schaefer and Kim Williams continue to provide our members and the legislators with timely, meaningful information. Special thanks are in order for all those physicians who volunteered for the Physician-of-the-Day program. Our communications department, under the guidance of our professional staff Adele Lash, Jamie Filio, Marty Badger and Tina Sims, has continued to provide current information to members through ISMA REPORTS, INDIANA MEDICINE and brochures such as "Medicare: What You Should Know."

The membership services department continued to provide new and innovative products for ISMA members. Mike Huntley, Sheryl Mahoney and Cristi Ferguson staffed and planned our ISMA convention and the newly created midyear leadership conference which were overwhelmingly successful.

Finance and administration is managed by John Wilson and assisted by Debbie Pierle - accounting, Rosanna Iler and Dolores Herman - membership, Tom Martens and Dotty Martens - health insurance administration, and Dana Wallace - computer systems. The department accepted new responsi-

bility for continuing medical education and experienced a complete revision of our health insurance program April of 1988. Most importantly, the department planned and staffed a membership development program for the AMA and ISMA and conducted phone-a-thons. Two of our major counties will conduct additional programs in 1989.

Our legal counsel, Ron Dyer, assisted by Mary Alice Cary, was extremely busy with medical reimbursement issues, Medical Licensing Board rules and regulations, and representation of physician issues statewide.

IMPAC was extremely active for this election year. Candidate interviews were held during the summer months by IMPAC's associate director Susan Grant, and the government relations department to determine recommendations for general election support. IMPAC published the first issue of its quarterly newsletter, PAC POINT. The staff also conducted a Key Contact Seminar in August for physicians and their spouses which was received very well and exceeded our quota for participants.

The association will be challenged with change in 1988-89. Nationally, a new administration will be inaugurated with new directions and priorities regarding the delivery of medical services. The Department of Health and Human Services will publish the Resource Based Relative Value Scale. Third party payors - JCAH and others - are now attempting to evaluate quality and outcomes with various computer generated data systems. A new governor will succeed the Orr Administration. The State Board of Health is being evaluated by the Sunset Committee with proposals for change to be offered to the Indiana General Assembly in 1989.

The ISMA has held steadfast in its belief that the best medicine is that which serves the patients' needs

in an appropriate manner to help relieve suffering. Our association staff will accept the challenge offered by the change and strive to serve the members in an efficient manner.

Resident Medical Society

MICHAEL A. WILLIAMS, M.D.
PRESIDENT

The Indiana Resident Medical Society has continued to be an active component society of the Indiana State Medical Association during its fifth full year of existence. Our membership has grown 30 percent in the last year, from 246 to 319 members as of Dec. 31, 1987. This is a growth rate of nearly seven times that of ISMA which had a membership increase of 4.5 percent during the same period. Resident membership within the AMA has increased 10 percent from 518 to 571 members, and currently represents about 10 percent of the total AMA membership in Indiana.

The RMS is assuming more responsibility within organized medicine in Indiana. IMPAC has created a resident position on its Board this year, residents serve on all ISMA commissions and we are represented in the ISMA House of Delegates and on the Board of Trustees. Indiana residents are not yet represented in the AMA delegation, however. I agree with the executive vice-president of the AMA, James H. Sammons, M.D., who recently wrote to ISMA's executive director, Richard R. King, and encouraged the ISMA to "consider selecting residents to fill some of their AMA delegate and alternate delegate seats." Residents offer a unique viewpoint of medicine: one that the ISMA can benefit from not only at the state level but also at the national level. I believe a long-term

goal of the RMS should be to have one of its members in the Indiana AMA delegation.

The Indiana RMS is a representative organization. During this past year, I have sought RMS leaders from all residency programs in Indiana, with a goal of proportionate representation on the RMS Governing Council for all training centers. My efforts have included both a statewide recruitment letter and invitations in person, yet currently the RMS leadership is composed mostly of residents from the Indiana University Medical Center. I recognize it is difficult for residents from Evansville, Fort Wayne, or Terre Haute to become active leaders simply because of the distances involved. However, even training hospitals in central Indiana — such as Methodist, St. Francis and St. Vincent hospitals — are not represented in the RMS leadership. The RMS was chartered to represent all residents in Indiana and one of our primary goals in 1988-89 should be to continue to broaden our leadership base.

The RMS is also a service organization and in the last year has continued to sponsor programs of benefit to residents in Indiana. The AMA's "Starting Your Practice Workshop" is a popular and worthwhile seminar which the RMS brings to Indiana twice a year. Last fall, we cosponsored the workshop with the 15th (residents') district of the Indiana Academy of Family Physicians. In 1988-89 we plan to include the new AMA workshop on joining a group practice. The RMS also helps residents find medical practices in Indiana during its annual Practice Opportunity Fair. Our goal is to provide Indiana residents with educational and organizational opportunities at a cost affordable to them.

In the last year, one of the most controversial issues for residents has been resident work hours and

supervision. There have been many calls across the country to legislate a limit to the number of hours residents may work. Restrictions became effective July 1, 1988, in the state of New York limiting residents to no more than 24 consecutive hours on ward duty and no more than 80 hours per week averaged over a month, including moonlighting hours. Similar legislation is pending in California, Massachusetts and Pennsylvania, and may be introduced in Indiana during the next legislative session. The RMS surveyed Indiana residents about their work schedules last summer and has data available for review. The RMS will be working with the ISMA Commission on Medical Education, the Association of Indiana Directors of Medical Education (AIDME) and the 15th (residents') district of the Indiana Academy of Family Physicians to address any resident work schedule problems or possible legislation during the next year. Our goal is to ensure safe and competent patient care through reasonable resident work schedules.

On a personal note, I wish to express my gratitude for the opportunity to serve residents as the president of the Indiana Resident Medical Society during the last year. I have learned how difficult it is to represent a group which has widely differing views and I have begun to learn how organized medicine can bring these views into the form of policy or action. I wish to acknowledge Bob Darroca, M.D., who served well as president-elect of the RMS this year, but regrettably was unable to assume the presidency because he will continue his training outside Indiana. I wish to thank the chairman of my residency training program, Mark L. Dyken, M.D., for his encouragement of my service within the ISMA. Last, I wish the Resident Medical Society and all residents in Indiana continued success with their efforts in organ-

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ized medicine and residency training. It has been my pleasure to serve you.

Commission on Constitution and Bylaws

HELEN GEYER CZENKUSCH,
M.D.
CHAIRMAN

This year the commission incorporated into the Constitution and Bylaws eight resolutions passed by the 1987 House of Delegates.

1. To implement Resolution 87-1, Section 12.0402 was amended and Section 12.0404 was deleted.
2. To implement 87-2, Section 1.0303(a), Section 1.0101 and Section 4.02 were amended. Editorially, we moved the amended Section 1.0101 phrase, "except as specified in 1.0303(b)," to the the end of Item (1) instead of the beginning.
3. To implement 87-10, Section 3.030103 and the Index were amended.
4. To implement 87-11, Section 7.010104 and the Index were amended.
5. To implement 87-17, Section 7.03 was amended.
6. To implement 87-23, Sections 4.0306 and 4.0307 were amended.
7. To implement 87-28, Section 3.030103(r) was added.
8. To implement 87-31, Section 7.010206, Section 1.0303(b), Section 7.1012 and the Index were amended.

The commission requested staff to draft resolutions for the 1988 House of Delegates pertaining to: (1) Section 3.021102 - responsibilities of reference committees; (2) Articles V

and VI and Section 4.01 - to rectify a discrepancy in the definition of officers; and (3) Section 7.1005 - to delete Section 7.1005.

Further actions were to refer to the Board of Trustees, for its approval, changes which we made to correct the discrepancies in the Bylaws to be assured the Board agreed that these changes represent the will of the House of Delegates.

I would like to thank the members of the commission for their assistance and ISMA staff for their advice and strong support this last year.

Commission on Convention Arrangements

GLENN J. BINGLE, M.D., Ph.D.
CHAIRMAN

During fiscal year 87-88, commission members addressed many issues affecting the rapidly changing meetings industry. Early in the year, a professional meetings consultant, Ernie Kerns, evaluated the annual convention's effectiveness and efficiency. Mr. Kerns also evaluated the convention's objectives, marketing strategies and meeting format. His final report recommends streamlining the convention format and ideas for making the convention more cost-effective.

To encourage attendance, the commission decided that no meetings will be scheduled in conflict with the House of Delegates sessions, reference committee meetings, the general scientific session, the IMPAC luncheon, or the president's night dinner and dance. State specialty societies who prefer to meet during the ISMA convention must pay for their meeting expenses, and programs submitted after the given deadline will not receive CME accreditation.

The commission reviewed Mr. Kerns' recommendations and appointed an ad hoc study committee to define the purposes of specialty sections and to outline specific objectives for the annual convention and the midyear leadership conference.

The 1988 convention theme, "Maintaining the Balance of Medical Care," was chosen to focus our attention on preserving the practice of medicine and the quality of care we provide our patients in an ever-changing and demanding environment. I would like to thank the members of the commission and the ad hoc study committee for their dedication to making the 1988 annual meeting more informative, purposeful and enjoyable.

Commission on Legislation

EDWARD L. LANGSTON, M.D.
CHAIRMAN

The Commission on Legislation began the year rather busily as did the members of the Indiana General Assembly. Even though this was a "short" legislative session and one that was anticipated to be less hectic, the first week began with the alarm bells being sounded: the Indiana Medical Malpractice Act was being amended in a dangerous fashion.

One bill (HEA 1070), which has now become law, began as a review of the operations of the Indiana Department of Insurance. Through the course of deliberations, a proposal was included in the bill which would have allowed a case to proceed directly to court if the defendant failed to comply with a discovery order by the panel chairman. Some lawmakers alleged that it is the defendant who slows down the panel process. Through the organized efforts of the ISMA and other interested groups, this onerous

language was removed from the bill by a 73-25 vote.

A similar proposal was attempted on the bill when HB 1070 was on second reading in the Indiana Senate. This amendment would have allowed the plaintiff to bypass the medical review panel process if the claim was filed two years from the date of discovery and if the plaintiff could prove that the defendant tried to conceal information or acted with malice. This amendment was defeated in the Indiana Senate.

Both of these actions marked significant achievements for the ISMA in keeping the Indiana Medical Malpractice Act void of proposals which would have a deleterious effect on the act.

Legislation which would have restricted the ability of the physician to dispense medications from the office did not receive a committee hearing this session. It is anticipated that this issue will be back again in the 1989 session.

SB 286 which would have required as a condition of licensure that a physician agree to accept the federal assignment rate for Medicare claims did not receive a hearing in the Senate Health and Human Services Committee this session. This issue has been a great concern in many states as legislation has popped up as a result of the U.S. Supreme Court decision upholding the Massachusetts statute which requires that physicians accept the assignment rate as a condition for licensure.

Probably the greatest amount of time and effort expended by the ISMA's leadership, staff and lobbyists centered on the comprehensive AIDS bill, SEA 9. SEA 9, which moved its way through the legislative process through much deliberation and negotiation, also managed to receive state funding (\$700,000) to implement the proposals contained in the measure. Briefly, SEA 9 would: extend the current reporting

requirements of confirmed cases of AIDS to include HIV positive test results (exemptions would be allowed for anonymous testing sites; also, when reporting the positive HIV test results of the confirmed cases of AIDS, the physician is to report, if known, whether the individual has undergone any blood transfusions); requires that the person to be tested for HIV give his consent and that the consent be documented (exceptions would be provided if a physician determines that an HIV test is medically necessary and the patient has given a general health care consent, if the court orders the test, or if the blood is collected anonymously as part of an epidemiological survey); establishes an advisory committee to work with the State Board of Health in the promulgation of rules governing the proper transport and treatment of infectious wastes; establishes a procedure for the notification of emergency medical care providers if that provider has been exposed to blood through an incident that can result in the transmission if the patient is found to have a dangerous communicable disease; requires employers to provide training and equipment for use of universal precautions for those workers who come in contact with body fluids; requires marriage applicants to receive information about risk factors and testing sites for sexually transmitted dangerous communicable disease; and requires the State Board of Health to provide information to physicians and dentists on AIDS and related diseases.

Two proposals of interest which were not included in SEA 9 would have required mandatory continuing education on AIDS for physicians and dentists and would have required HIV testing for marriage applicants.

The ISMA scored another success in the Indiana General Assembly in its efforts to reduce tobacco abuse by

minors. SEA 235 which would prohibit the promotional distribution of tobacco to minors was amended during the legislative process to add a penalty provision for a minor who purchases tobacco (Class C infraction). This measure was passed on third reading in the Indiana House of Representatives by a vote of 99-0. This bill was part of the continuing effort by the ISMA and the Indiana Coalition for a Tobacco Free Society to reduce the incidence of tobacco use in Indiana. Also, SB 139, which would have delayed the implementation of the recommendations of the Prescription Abuse Study Committee from November 1988 to July 1989 was vetoed by Governor Robert D. Orr.

Indiana's lawmakers approved a proposal to expand Indiana's Medicaid program to include prenatal care for women whose incomes are at or below 50% or the poverty level.

A reception was held for Indiana's state legislators and spouses by IMPAC and the Commission on Legislation. The reception was well attended and provided a fantastic opportunity for ISMA to bend the legislators' ears in a less hectic and more open arena.

The Physician of the Day program was also a big success and I would encourage ISMA members to volunteer to serve one day at the State House for this program.

The June issue of INDIANA MEDICINE contains a "1988 Digest of Health and Medical Laws" prepared by ISMA's Department of Government Relations, which summarizes the newly passed health and medical laws of importance to physicians.

I would like to extend my appreciation to the members of the Commission on Legislation, the staff of the Department of Government Relations, the Key Contact physicians and auxiliaries, and all of the ISMA members and auxiliaries who take the time to become involved in

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the legislative process. Many ISMA successes are a direct result of physician and auxilian involvement in this grass roots lobbying effort.

Commission on Medical Education

JAMES E. CARTER, M.D.
CHAIRMAN

During the past year the Commission on Medical Education and the Subcommittee on Accreditation each met twice. Accreditation visits were made to nine institutions. These institutions were accredited for two to six years. The commission members are pleased with the caliber of the continuing medical education programs offered and the sense of responsibility shown by physicians in charge of these programs. It is hoped that hospitals not now offering accredited programs will consider participating in the accreditation process. Currently there are 44 accredited institutions and 18 accredited medical organizations. All members of the commission and the subcommittee are involved in accreditation visits.

During this year changes have occurred in the chair position and staffing of the commission. Frank Bryan, M.D., resigned as chairman of the commission and Ms. Beckett Shady-King left the ISMA staff. James Carter, M.D., was appointed chairman by John MacDougall, M.D., ISMA president. John Wilson and Tom Martens have assumed staff support roles for the commission and subcommittee. Dr. Bryan was recognized and presented a plaque on behalf of ISMA by Dr. MacDougall at the commission meeting in April. Dr. Bryan has been a valuable contributor and member of the commission for 21 years and has provided excellent leadership as chairman. Dr. Bryan's activity has attracted national attention as well

as state recognition.

The program, "Funding the Continuing Medical Education Program," was presented April 16 and was jointly sponsored by the commission and the Association of Indiana Directors of Medical Education (AIDME). The program was well received and excellently attended by medical education staff from throughout Indiana. Albert May, M.D., from Ohio State was the keynote speaker.

An ad hoc committee of the commission was formed to study and prepare a proposal for the State of Indiana on physician education. The proposal will outline a program to provide remedial education for physicians delineated by Peerview to have remedial needs. Glenn Bingle, M.D., is chairing this committee. Serving with him on the committee are Glenn Baird, M.D., Stephen Jay, M.D., Jerry Stucky, M.D., Lindley Wagner, M.D., James Carter, M.D. - ex officio, and Ron Dyer - ex officio.

Representatives from the commission, AIDME, Indiana University School of Medicine and ISMA's Resident Medical Society (RMS) met this year to discuss the issue of residency working hours and residency supervision in Indiana. This group was interested in obtaining information from Indiana residency programs about these issues. The RMS has surveyed residents and the AMA has a proposal for a national survey of considerable depth. It was decided to see if this survey will be done and to seek the Indiana program data separately for state study and recommendations.

Prior to and during the legislative session this past year, the commission was involved in ISMA's activity opposing mandatory continuing medical education for physicians about AIDS.

Many people have contributed to the success of the commission's activities this past year. ISMA staff

members have been very helpful and supportive during this busy year of transition and change for the commission. I would like to acknowledge again the fine leadership provided by Dr. Bryan, Dr. Jay and other members of the commission and subcommittee. Their involvement provides the needed support and activity for excellence in medical education in Indiana.

Commission on Medical Services

ALFRED COX, M.D.
CHAIRMAN

During the past year the commission has explored a wide variety of topics.

In response to the State Department of Education's observation that many low-income children start school with undiagnosed and untreated health problems, the commission is trying to evaluate the extent of the problem. The commission is also surveying county medical societies to find out what existing resources are available to provide health care services to disadvantaged children. The State Department of Education is currently exploring the feasibility of creating administrative rules requiring preschool physical exams for all Indiana children. The subcommittee's activities are still in the developmental stage, but ISMA will keep you informed of the committee's progress.

The commission spent much time discussing Resolution 87-9 (nursing home care) that was adopted by the 1987 House of Delegates. The commission agrees with the action taken by the House and will return to the House with an even stronger position statement.

The commission listened to testimony by the Grant County Medical Society's Insurer Performance Review Committee regarding

the General Motors list of nonpayable x-ray and laboratory procedures. The commission has made the appropriate recommendations to the Board of Trustees.

All ISMA members have again this year received an updated version of the brochure "Your Financial Advantage." The brochure describes a variety of prenegotiated business and financial services available to ISMA members. Your response to the programs has been gratifying. The commission has reviewed many proposals from additional companies that wish to be endorsed by ISMA. While the proposals cover too wide a variety of services to be discussed in this report, the successful proposals will be described in further communications.

Our 1988 commission meetings have been very intense, due to the number of topics discussed. I would like to thank the commission members for the thoughtful attention and perseverance they have devoted to the commission's activities.

Commission for Physician Assistance

FRED BLIX, M.D.
CHAIRMAN

I would once again like to thank the dedicated and enthusiastic members of the commission. Their energy and sensitivity have made the work of this commission something ISMA can point to with pride.

Consistent with Resolution 87-31, the commission's name has been changed from "Commission on Physician Impairment" to "Commission for Physician Assistance." The role of the commission remains the same.

During fiscal year 87-88, commission members put on a seminar at ISMA's Leadership Conference, did a one-hour show on I.U.'s medical television network and worked

personally with county committees throughout the state. Special thanks should be given to Dolores Burant, M.D., and D. Kete Cockrell, M.D., for all the extra hours they have devoted to this activity.

The commission has spent considerable time designing and developing a statewide implementation program built around the intent of Resolution 97-29 (Physician Recovery Coordinator Position). We have developed applicant qualifications, a job description, a budget and an implementation plan.

Throughout the process of planning for the future and responding to the actions of the 1987 House of Delegates, the commission has also responded to many requests for assistance in dealing with our chemically dependent colleagues. Utilizing the resources of local committees, the ultimate goal of this commission continues to be assisting the chemically dependent physician.

Commission on Public Relations

R. ADRIAN LANNING, M.D.
CHAIRMAN

ISMA must constantly evaluate its public relations activities to respond to the changing health care environment. We must: 1) determine what our members want; 2) anticipate new issues and how to address them; 3) continue to be aware of new technologies and how they can assist in communicating with our members; 4) pursue joint efforts with other groups who have similar interests in specific issues and 5) determine which programs should be continued and which are no longer effective.

The Commission on Public Relations has emphasized all five areas in 1987-88.

A membership survey conducted earlier this year asked ISMA members what they feel are the two

most important public relations problems. Our members responded: the high cost of medical care and public confusion regarding fee-for-service and alternative health care delivery systems. They expressed a desire for access to more patient education brochures. Other significant concerns include governmental or regulatory matters and reimbursement problems from private and government programs. As this report is being written, methods and materials are being planned to address these issues in the upcoming fiscal year.

The public relations and government relations staffs continued to work together to keep members abreast of proposed new regulations and what doctors can do about them. ISMA's ability to do so has been enhanced by the desktop publishing system which was installed in February. This relatively new computer technology has enabled the public relations staff to cut by 10 days the production time necessary for completing ISMA REPORTS. That means physicians receive important information sooner. Desktop also increased ISMA's ability to prepare brochures, fliers and other printed materials faster and less expensively than ever before.

The PR staff has produced a schedule for updating previous ISMA brochures which are still in circulation. The brochures will be available for purchase by members. The first new brochure developed on the system this year was "Medicare: What You Should Know." It answers patients' questions about changes in the Medicare program. It explains the terms "participating" and "non-participating," "assignment," "medically unnecessary," "maximum allowable actual charge" and "diagnosis related groups." Patients are told what impact the medically unnecessary regulation and DRGs may have on their care. The underly-

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ing theme of the brochure is that the doctor is the patient's medical care advocate.

I appreciate the efforts of Randy Lievertz, M.D., and Gordon Gutmann, M.D., commission members who assisted me in editing the draft of this popular brochure.

Still on Medicare, ISMA took steps to develop input into a bill that would reform the current Medicare system. The proposal, HR 4455, was introduced into Congress earlier this year. It began at the AMA as a proposal for financing health care of the elderly.

Dr. MacDougall briefed members of the Indiana Federation of Older Hoosiers on the proposal even before it became legislation. He urged them to consider it and to offer suggestions and comments. Dr. MacDougall has continued to discuss HR 4455 with Federation leaders and to solidify our relationship with this statewide umbrella organization of aging groups.

Additionally, ISMA continues its affiliation with the Indiana Health Care Committee of the American Association of Retired Persons (AARP). The committee meets periodically to discuss medical and health-related concerns.

Because of developments in Medicare and other health care issues, these liaison activities continue to be important.

With the emphasis that has been placed on health and medical issues related to the aging, ISMA has seen an increased interest in the six-part video series, "Healthy, Happy and Wise." Produced in 1985, the series continues to be used by physicians and organizations in relating to older people.

Lastly, the public relations staff has implemented a periodic public relations audit. The purpose is to determine if our PR efforts are hitting their mark. Through surveys and by tracking the usage of services ISMA provides, we can determine

which programs, materials or services are the most popular: which are the most in demand from our members, from the media and from the public. The Commission on Public Relations will review the audit and determine whether programs should be continued, reinforced or discontinued.

I would like to thank the members of the Commission on Public Relations and the public relations staff for their work on behalf of the Indiana State Medical Association.

Commission on Sports Medicine

RONALD BLANKENBAKER,
M.D.
CHAIRMAN

The Commission on Sports Medicine continues to encourage good health and physical fitness in our Hoosier youth through safe, effective sports activities in school and amateur athletic programs. Since the last annual report, the commission has met bimonthly.

The commission has maintained a high level of involvement in the issue of anabolic steroid usage by athletes. Through the efforts of ISMA, the 1988 Indiana General Assembly passed and the Governor signed into law legislation which makes the inappropriate use, sale and possession of anabolic steroids a felony. At the present time, the commission is developing educational materials to be used with high school athletes and is planning an article for *INDIANA MEDICINE* to clearly define the issue for physicians.

The commission has spent considerable time discussing the use/abuse of other drugs by athletes. We reported to you last year the commission's involvement in drug testing at the Pan American Games. Now we see drug testing being implemented in high school athletics, and the commission is supportive of

such efforts. We have elected to withhold any recommendations to the Board, however, pending the result of current legal actions being taken in opposition to such testing.

Over the past several years, the commission has become concerned about the lack of adequately trained individuals who can help prevent and appropriately treat athletic injuries in our schools. With the support of the ISMA Board of Trustees, the commission has both encouraged and assisted the Indiana Athletic Trainers Association in its efforts to implement an educational curriculum for faculty members who can become qualified to work with athletes in those schools which do not have a certified athletic trainer. We assisted in the successful passage of a joint resolution of the 1988 General Assembly to evaluate this problem and a legislative study committee is currently addressing this issue.

The commission continues to provide sports medicine symposia across the state for a variety of individuals who are involved in the care of school children in recreational/sport activities. These symposia have been well received and represent another means for the commission to actively encourage a safe environment for athletic endeavors. In addition, we have once again cosponsored a resource directory for "Sports and Fitness" with the Indiana Governors Council for Physical Fitness and Sports Medicine.

In cooperation with other athletic interests, we have addressed safety of metal versus non-metal baseball spikes, the health hazards of playing two basketball games on the same day, and the practice of providing mass sport physicals at the school as opposed to a complete physical exam in the physician's office. While these issues are not completely resolved, we will continue to pursue them until an acceptable recommendation/

solution can be made.

I would particularly like to thank the members of the commission as well as the members of the Technical Advisory Committee for their thoughtful involvement in these difficult but very important issues.

Future Planning Committee

**WILLIAM C. VAN NESS, II,
M.D.
CHAIRMAN**

During 1987, the Future Planning Committee completed an analysis of the medical environment within the state of Indiana as well as a strategic plan that was designed to guide ISMA's activities for the next several years. A synopsis of that strategic plan was reported to you just prior to last year's convention.

During 1988, the Future Planning Committee has both monitored and helped in the implementation of the strategic plan. I can report to you that the organization is being guided by the principles established by the strategic plan. Specifically, ISMA trustees have now begun to hold districtwide meetings with county officers, the first Midyear Leadership Conference was held in April of this year, ISMA continues to offer support services to an increasing number of statewide specialty societies and, hopefully, you have noticed the new format of ISMA REPORTS. In keeping with the precepts of the strategic plan, ISMA has increased its level of activity in the public affairs arena. In response to the strategic plan's call to strengthen lobbying activities, additional staff have been hired, the key contact program has been renewed and an increasing amount of energy is being devoted to meeting with Indiana congressmen when they return to their districts.

You should by now be familiar

with ISMA's "Your Financial Advantage" brochure. In that brochure you have found a variety of discount purchasing programs as well as special arrangements for professional services. Additionally, the Physician Placement Service called for by the strategic plan is now operational.

Most recently, the Future Planning Committee completed a thorough review of ISMA's commission/committee organizational structure and has recommended to the Board the discontinuance of several commissions and committees. In particular instances, we feel that the work of the organization can be better performed utilizing ad hoc committees or by merging the tasks of two committees.

I would like to thank the members of the Committee for the time and thought they have devoted this year.

Grievance Committee

**G. BEACH GATTMAN, M.D.
CHAIRMAN**

The Grievance Committee continued to work on complaints against physicians during 1987.

As usual, the lack of good patient communication was the reason for most of the complaints that were received. As chairman, I wish to thank the other members of the committee for their willingness to serve during the year.

Indiana Medical Education Fund

**HERBERT C. KHALOUF, M.D.
CHAIRMAN**

The Indiana Medical Education Fund received a total of \$73,206.35 in 1988, \$63,360.11 was in unrestricted grants and \$9,846.24 was in a restricted grant. The total monies

were provided by individual physician contributions and the fund raising activities by the ISMA Auxiliary. Previous contributions have been \$73,754.16 for 1987, \$62,138.35 for 1986, \$57,179.20 for 1985, \$68,244.35 for 1984 and \$66,489.88 for 1983.

Fund Balance 7-1-87	\$ 633,395.25
Contribution Rec'd.	73,206.35
Distribution	
- Restricted Contribution	(9,846.24)
Distribution	
- I.U. School of Medicine	(60,000.00)
Distribution	
- Regional Campus	(1,336.82)
Net Investment Income	58,243.12
Trustee Fees	(1,814.20)
Fund Balance	
6-30-88	691,847.4

Advisory Committee on Medicaid and Indigent Care

**PAUL WENZLER, M.D.
CHAIRMAN**

This advisory committee was created to provide input from physicians to the Indiana General Assembly and the Department of Public Welfare regarding proposed changes to the Medicaid program - specifically, the development of a managed-care system under Medicaid. Conceptually, the program would have each Medicaid patient select a primary care, managed-care physician for Medicaid services on a fee-for-service basis.

In 1987, the legislature authorized the creation of such a program pending the granting of a waiver from HCFA.

The waiver has not yet been granted, so the administrative rules which would contain many of the details of this program have not been

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developed.

Once the waiver is granted and the rule-making process begins, this advisory committee will meet with representatives of the Department of Public Welfare and other interested parties to ensure that physicians have input in the development of this program.

Ad Hoc Committee on AMA Matters

PAUL SIEBENMORGEN, M.D.
CHAIRMAN

The Ad Hoc Committee on AMA Matters met twice this year to study and discuss Dr. Steen's memo and report back our recommendations to the board. We found Dr. Steen's memo to be very beneficial in our discussions and used it for reference and guidance. The prevailing theme in the memo was the need to ensure that each delegate/alternate delegate remains active, effective and a valuable representative of the Indiana State Medical Association at the AMA House of Delegates.

The committee discussed Dr. Steen's recommendation of limiting the number of terms a delegate may serve. The consensus was that a delegate should be allowed to continue to serve if he is still active and effective.

The committee agreed that the delegation should be sufficiently compensated with a \$1,400 stipend per meeting for their expenses. In order to maintain an adequate compensation level, the committee recommends that the Executive Committee review and adjust, if necessary, the AMA Delegation stipend to reflect inflation and/or the location of the meeting.

To clarify and classify the purpose and duties of the delegation, the committee has drafted a document which outlines those responsibilities and recommends that it be substi-

tuted for the current verbiage in ISMA's administrative policies.

The committee's final discussion concerned delegate election methods. The current process of running against a specific slotted delegate/alternate delegate was reviewed as adversarial and a deterrent to some individuals. It was felt that if the elections were conducted with candidates vying for three available openings (instead of running against one "specific" individual), competition and campaigns would be greatly encouraged. In the past, there have been many uncontested races. The committee decided to recommend that the election be changed in this manner with the terms of office remaining at two years.

I would like to thank the members of the committee, Drs. Haley, Gourieux, O'Neill, Hoffman, VanNess, Knotte and Marty Sieg-Ross, for their time, effort, input and feedback. Their participation in our deliberations was most helpful.

The committee would like ISMA to promote through its monthly newsletter attendance by our members at the AMA meeting. We feel the AMA meeting is a worthwhile experience for all members and is a great opportunity to view firsthand the actions of the AMA House of Delegates.

Physicians Insurance Company of Indiana

PAUL SIEBENMORGEN, M.D.,
PRESIDENT AND
CHAIRMAN OF THE BOARD

Our physician-owned company has never been more successful than in 1987. PICI continues to grow and prosper thanks to the support of our policyholders, founders, the Board of Directors, and the Indiana State Medical Association.

In 1987 PICI continued to honor

its commitment to the Indiana physician by providing the best product and best service available in the marketplace today. As most of you know, PICI is unique in that we were formed by doctors to serve doctors here in the state of Indiana. Our involvement in claims, underwriting and the investment activities of the company should assure our policyholders that decisions are being made with the knowledge of the key issues concerning our industry.

PICI has continually strived to strengthen its financial position with 1987 being the year in which we have shown a modest profit. Direct written premiums for medical professional liability were \$5,691,000, a 46% increase over 1986. Personal and commercial lines premiums accounted for \$2,621,000. Total writings for all lines amounted to \$8,311,000, a 60% increase over 1986. Assets reached an all-time high of \$11,248,000 which is an increase of 75% over 1986. Policyholders have increased by 26%.

In five years PICI has become a more dominant force in Indiana by capturing 34% of the Indiana State Medical Association Membership. PICI continues to gain in policyholder count, primarily through the influx of new physicians entering the state as well as physicians who are just beginning to practice. Indiana continues to attract quality physicians from outside the state because of its favorable malpractice climate. Further, PICI's Young Physicians Program is unmatched when it comes to quality and innovation. I'm proud to say PICI now insures 2303 physicians across the state.

Unfortunately, claims frequency did continue to escalate during the past year with more than 200 new suits filed. Of all the malpractice suits filed since the inception of our company, we have closed 78% with no indemnity and 22% with indemnity. These statistics reflect our

strong defense policy and also our position of not settling a claim without the physician's consent, which has been and continues to be a motivating factor in physicians choosing PICI for their malpractice coverage. In addition, we use only attorneys who specialize in malpractice defense. To do otherwise, we believe, could encourage other attorneys to defend you today and sue you tomorrow.

As a continued service to our policyholders, the Medical Premium Finance Company financed over \$1,500,000 in premiums during 1987. This service again allows doctors to monitor their insurance protection while lessening the need for them to disrupt cash flow or divert funds from other investments.

Despite the growth in malpractice claims mentioned above, readers should be particularly proud of the Indiana State Medical Association's efforts in helping to preserve our present tort reform system. We continued to have one of the best working systems in the United States today. In other states, physicians in practice are giving up certain procedures daily or leaving their practices because of the significant risk involved or skyrocketing premiums attached to their specialties.

Ahead of us here in Indiana, we have some real concerns about whether our model tort reform system will be able to sustain itself in its present form when the next legislative session convenes. That is why the continued efforts by the ISMA to improve the system deserves your help and support. Their participation - and yours - will be crucial elements which will have a direct effect on the future cost of health care in the State of Indiana. Further, your help and participation will go a long way in determining how you practice medicine in the coming years. Unfortunately, PICI, as the insurance mechanism, cannot

solve the problem by itself. We must all demand our right to participate in the continued evolution of our laws; especially, in how we as physicians will practice medicine in the future.

In 1988, it is our intention to introduce a combination medical professional liability and office package which will allow credits to be given (if the risk qualifies) which may save the physician premium dollars over what he is currently paying. It will afford the physician the choice of several payment options and may qualify for medical premium financing.

As promised, we have begun a series of risk management programs designed to reduce the likelihood of a physician being sued. So far, these programs have been geared to the medical societies located around the state and have been very well received. It is our intention to design a second program which will allow the physician to qualify for CME credit and will be broader in scope and presented in either half-day or full-day increments. (See article regarding these programs in this issue of PICI Digest.)

As we reflect on last year, and before we look ahead to the next, let us acknowledge that our successes have come through the support and endorsement of the Indiana State Medical Association, our Physician Board of Directors, our independent agency force, our insureds and the daily commitment of our employees. To all of these, we owe our thanks.

Now, more than ever, Indiana physicians know that they can rely on PICI. Our challenge in 1988 will be to continue to build the financial strength necessary to enable our company to continue its mission of providing a stable, competitive market for medical liability insurance for the doctors of Indiana.

Status of 1987 Resolutions

The following summary includes referrals from the Board to ISMA committees and commissions and is submitted as a supplement to the annual report of the Chairman, Board of Trustees.

RESOLUTION 87-1	BYLAWS CHANGE IN SECTION 12.04, MEDICAL STUDENT SOCIETY
Introduced by:	ISMA-Medical Student Society
Referred to:	Commission on Constitution and Bylaws
Status:	Implemented
RESOLUTION 87-2	REGARDING RESOLUTION 85-8 AND RESOLUTION 86-44, "ISMA MEMBERSHIP SUSPENSION AS A RESULT OF MLB SUSPENSION"
Introduced by:	Board of Trustees
Referred to:	Commission on Constitution and Bylaws
Status:	Implemented
RESOLUTION 87-3	SURCHARGE TO THE INDIANA PATIENTS COMPENSATION FUND
Introduced by:	Lake County Medical Society
Referred to:	Commission on Legislation
Status:	Legislation was filed by Representative Charlie Brown in the 1988 session to address this issue, but the legislation was unsuccessful. Since that time, the Insurance Commissioner has met with representatives of the ISMA, Lake County Medical Society, and other interested groups to talk about the subject of territorial rates for medical malpractice as well as other issues of concern to the Indiana Medical Malpractice Act. The Department of Government Relations will be monitoring this subject through the summer and into the next legislative session.
RESOLUTION 87-4	THREE-DAY CONVENTION FORMAT
Introduced by:	Commission on Convention Arrangements
Referred to:	Commission on Convention

Status:	Arrangements for follow-up in 1989 Implemented
RESOLUTION 87-5	QUALIFICATIONS FOR PROVIDING EXPERT MEDICAL OPINION
Introduced by:	Lake County Medical Society
Referred to:	Commission on Legislation
Status:	The staff of the Department of Government Relations will meet with the General Counsel of the ISMA to come up with some proposed guidelines for qualifications for persons who are providing expert medical opinions. These suggested guidelines will then be presented to the Indiana State Medical Association's ad hoc Committee on Medical Malpractice and Commission on Legislation.
RESOLUTION 87-6	ADMINISTRATION OF THE PATIENTS COMPENSATION FUND
Introduced by:	Lake County Medical Society
Referred to:	Commission on Legislation and ad hoc Committee on Medical Malpractice
Status:	Legislation was drafted to accomplish this task dealing with the Medical Malpractice Act for the 1988 session but was not introduced because of this being a short session. This subject will be brought before the Commission on Legislation in preparation for the 1989 session. In addition, the staff of the ISMA has discussed this issue with representatives of the Indiana Hospital Association and other interested groups as well as with the gubernatorial candidates as to how this matter may be addressed.
RESOLUTION 87-7	DISTRIBUTION OF TRUSTEES AND ALTERNATE TRUSTEES
Introduced by:	Third District Medical Society
Referred to:	None

Status:	<i>Not Adopted</i>		
RESOLUTION 87-8	INDIANA MEDICAL HISTORY MUSEUM		free distribution of tobacco to minors). This issue will be brought back for the 1989 session of the Indiana General Assembly. In addition, the Department of Government Relations has conducted a survey of all the hospitals in Indiana to determine what their smoking policies are now under the current law.
Introduced by:	Tippecanoe County and Carroll County Medical Societies		
Referred to:	Commission on Convention Arrangements		
Status:	Implemented		
RESOLUTION 87-9	NURSING HOME CARE		
Introduced by:	ad hoc Committee on Geriatrics	RESOLUTION 87-14	PRESCRIPTION DRUG ABUSE EDUCATION
Referred to:	Commission on Medical Services for further study and report back	Introduced by:	Edward Langston, M.D.
Status:	Being resubmitted as a new 1988 resolution	Referred to:	Commission on Legislation
		Status:	The PADS report was distributed to all presidents of the county medical societies. In addition, articles will be published in the medical journals and newsletters informing the membership of the ISMA about prescription drug abuse and diversion.
RESOLUTION 87-10	COLLEGE HEALTH PHYSICIANS SECTION		
Introduced by:	Commission on Constitution and Bylaws	RESOLUTION 87-15	INDIANA MEDICAL HISTORICAL MUSEUM
Referred to:	Commission on Constitution and Bylaws	Introduced by:	Neal Petry, M.D., Delegate, Carroll County
Status:	Implemented	Referred to:	Commission on Public Relations
RESOLUTION 87-11	NAME CHANGE FOR MEDICO-LEGAL COMMITTEE	Status:	Implemented
Introduced by:	Medico-Legal Committee		
Referred to:	Commission on Constitution and Bylaws	RESOLUTION 87-16	NOTIFICATION OF MEDICAL SOCIETIES AND HOSPITALS BY THE MEDICAL LICENSING BOARD OF INDIANA (HEALTH PROFESSIONS SERVICE BUREAU)
Status:	Implemented	Introduced by:	Owen-Monroe County Medical Society
RESOLUTION 87-12	MISSION STATEMENT - ISMA CONSTITUTION	Referred to:	ISMA staff
Introduced by:	Future Planning Committee	Status:	Attorney General's Office and/or Health Professions Service Bureau now attempt to personally notify by telephone, immediately after imposing a summary suspension, the suspended doctor and the hospital where he is practicing.
Referred to:	Commission on Constitution and Bylaws		
Status:	Resolution 87-12 is resubmitted to 1988 House of Delegates for final vote to change Constitution	RESOLUTION 87-17	MEMBERS ON COMMISSION ON MEDICAL EDUCATION
RESOLUTION 87-13	SMOKING IN PUBLIC HEALTH FACILITIES	Introduced by:	Commission on Medical
Introduced by:	Boone County Medical Society		
Referred to:	Commission on Legislation		
Status:	The Department of Government Relations has prepared legislation to address this issue. Since the 1988 session was a short session, other initiatives in the "tobacco free" area were introduced and passed by the General Assembly (penalties for the		

Status of 1987 Resolutions

Referred to: Education
ISMA president and Commission on Constitution and Bylaws
Status: Implemented

RESOLUTION 87-18 DISPENSING MEDICATIONS FROM THE OFFICE

Introduced by: Thomas Neathamer, M.D.
Referred to: Commissions on Legislation and Public Relations
Status: Implemented

RESOLUTION 87-19 PRESCRIPTION DRUG MISUSE

Introduced by: Hospital Medical Staff Section
Referred to: Commission on Legislation
Status: Because the PADS report has already been issued to the Governor, it cannot be modified. The issue of how doses are written on a prescription (both in words and numerically) can be addressed in the articles on prescription drug abuse and diversion which will be published in INDIANA MEDICINE and other ISMA publications.

RESOLUTION 87-20 PENALTIES FOR FISCAL INTERMEDIARIES WHO DO NOT REIMBURSE PATIENTS PROMPTLY

Introduced by: Grant County Medical Society
Referred to: Commission on Legislation
Status: A legislative interim study committee has been established to take a look at how the issue of the Medicare and Medicaid carriers are reimbursing patients and how the carriers are processing the claims. The staff of the Department of Government Relations will be closely monitoring this committee and working with other interested groups.

RESOLUTION 87-21 HEALTH PLAN EVALUATION

Introduced by: Grant County Medical Society
Referred to: None
Status: Not Adopted

RESOLUTION 87-22 INSURER PERFORMANCE

Introduced by:
Referred to:
Status:

REVIEW NETWORK
Grant County Medical Society Board of Trustees
Referred from the Board to the Executive Committee for exploration of concept, cost, and ISMA's role. As an interim measure, the Executive Committee granted monetary support of \$500 per month to Grant County Medical Society until the ISMA Annual Meeting. Independent assessment by Kimmerling & Myers on the nature and cause of the Medicare reimbursement problem was requested by the Executive Committee on June 1, 1988.

This resolution has been discussed at every Executive Committee and Board meeting this year. The Executive Committee met with the Ohio State Medical Association representative to explore an "ombudsman" approach.

Regular meetings have now been established with the Blues who have already hired additional staff to deal with this issue.

ISMA organized a special meeting with the entire Grant County Medical Society.

This is a complex, big-dollar topic with far-reaching implications. The Board has been carefully developing a plan of action. The Board will issue its final report at the 1988 annual meeting.

RESOLUTION 87-23 OFFICE OF SPEAKER AND VICE SPEAKER

Introduced by: Grant County Medical Society
Referred to: Commission on Constitution and Bylaws
Status: Implemented

RESOLUTION 87-24 FEDERAL DEFINITION OF

Introduced by:	<p>"USUAL," "PREVAILING" AND "REASONABLE"</p> <p>Robert Jackson, M.D.; Paula Oliver, M.D.; Laurence Musselman, M.D.; Roland Paegle, M.D.; John Pattison, M.D.; and endorsed by the Patient Advocate Committee and the Insurer Review Committee of the Grant County Medical Society</p>	<p>concerned program directors and sponsoring institutions to take prompt and direct action, <u>and reminds all physicians of their moral responsibility to teach."</u></p>
Referred to:	Indiana Delegation to the AMA	
Status:	Introduced at the 1987 AMA Interim Meeting; referred by the AMA House to the AMA Board of Trustees which will consider it at its October 1988 meeting.	
RESOLUTION 87-25	PRIMARY PHYSICIAN RESIDENT EDUCATION	
Introduced by:	R.B. Juergens, M.D.	
Referred to:	Indiana Delegation to the AMA	
Status:	Introduced at the 1987 AMA Interim Meeting; referred by the AMA House to the AMA Board of Trustees. The Board asked the Council on Medical Education to report back to the House at the 1988 Annual Meeting. In its report, the Council felt that the AMA's urging of reluctant physicians to participate in education of residents is not an effective approach to the concerns which prompted submission of this resolution. It is their belief that the responsibility for assuring the integrity of the educational program and compliance with both general and special requirements lies with the sponsoring institution. In order for these programs to maintain accreditation, they must include the necessary educational and supervisory services. The House adopted the Council's report with the following amendment in lieu of the resolution, "The Council urges	
RESOLUTION 87-26	PATIENTS COMPENSATION FUND	
Introduced by:	Vigo County Medical Society	
Referred to:	None	
Status:	Not Adopted	
RESOLUTION 87-27	PHYSICIAN EXEMPTION FROM JURY DUTY	
Introduced by:	Vanderburgh County Medical Society	
Referred to:	None	
Status:	Not Adopted	
RESOLUTION 87-28	NEW ISMA SPECIALTY SECTION	
Introduced by:	Physicians practicing physical medicine and rehabilitation	
Referred to:	ISMA staff and Commission on Constitution and Bylaws	
Status:	Implemented	
RESOLUTION 87-29	PHYSICIAN RECOVERY COORDINATOR POSITION	
Introduced by:	Marion County Medical Society	
Referred to:	Board of Trustees	
Status:	Implemented	
RESOLUTION 87-30	CANDIDATE SUPPORT	
Introduced by:	Seventh District Medical Society	
Referred to:	Executive Committee, Indiana Delegation to the AMA, and Policy Manual	
Status:	Implemented	
RESOLUTION 87-31	NAME CHANGE FOR THE COMMISSION ON PHYSICIAN IMPAIRMENT	
Introduced by:	Marion County Medical Society	
Referred to:	Board of Trustees	
Status:	Implemented by Commission on Constitution and Bylaws (Name change to Commission on Physician Assistance)	

THE INDIANA STATE MEDICAL ASSOCIATION

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 - 3—Thomas A. Neathamer, Jeffersonville (1988)
 - 4—William E. Cooper, Columbus (1989)
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 - 4—George L. Alcorn, Madison (1988)
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 Marvin E. Priddy, Fort Wayne (1989)
 Peter R. Petrich, Attica (1989)
 Thomas C. Tyrrell, Hammond (1989)

AMA ALT. DELEGATES (Terms end Dec. 31)

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 Edward L. Langston, Flora (1988)
 George T. Lukemeyer, Indianapolis (1988)
 Herbert C. Khalouf, Marion (1989)
 Martin J. O'Neill, Valparaiso (1989)
 Richard L. Reedy, Yorktown (1989)

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- 1—Pres: Alan H. Johnson, Evansville
 Secy: Kishor R. Bhatt, Boonville
 Annual Meeting: 1989
- 2—Pres: William A. Nice, Bloomington
 Secy: Andrew R. Jones, Bloomington
 Annual Meeting: May 19, 1989
- 3—Pres: James M. Jacobi, Bedford
 Secy: Eric V. Schulz, Bedford
 Annual Meeting: May 12, 1989
- 4—Pres: Frank L. Frable, Lawrenceburg
 Secy: William J. Granger, Lawrenceburg
 Annual Meeting: May 3, 1989
- 5—Pres: Mark F. Conway, Greencastle
 Secy: Peggy Sankey-Swaim, Rockville
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- 6—Pres: Robert J. Warren, Richmond
 Secy: Stephen M. Dillinger, Greenfield
 Annual Meeting: May 9, 1989
- 7—Pres: Lloyd C. Miller, Danville
 Secy: H. Marshall Trusler, Greenfield
 Annual Meeting: 1989
- 8—Pres: L. Jane McDowell, Muncie
 Secy: Charles W. Bartholome, Muncie
 Annual Meeting: June 14, 1989
- 9—Pres: Timothy N. Brown, Crawfordsville
 Secy: R. Adrian Lanning, Noblesville
 Annual Meeting: June 14, 1989
- 10—Pres: Surjit S. Patheja, Valparaiso
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- 11—Pres: Brian L. Doggett, Delphi
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 Annual Meeting: Sept. 20, 1988
- 12—Pres: Thomas D. Smith III, New Haven
 Secy: William J. Aeschliman, Fort Wayne
 Annual Meeting: Sept. 15, 1988, Fort Wayne
- 13—Pres: Jon B. Kubley, Plymouth
 Secy: Thomas J. Eberts, South Bend
 Annual Meeting: Sept. 13, 1988

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Snakeroot Extract

Number 13

October, 1988

PUBLISHED BY THE INDIANA MEDICAL HISTORY MUSEUM AND THE INDIANA HISTORICAL SOCIETY

Society Sponsors Session on the Changing Role of the American Hospital

The changing role of the American hospital will be the theme of a morning-long session sponsored by the Indiana Historical Society's Medical History Committee at the Society's Annual History Conference to be held on Saturday, November 5, 1988, at the Airport Holiday Inn. The keynote speaker for the session will be Morris J. Vogel, Ph.D., from Temple University. In his paper, "Health Care in the Distended Society: The American Hospital in Its Social Contexts," Vogel will trace the history of the hospital and will examine why the hospital became an important form of health care in late nineteenth-century America.

Until the 1870s and 1880s, most people viewed the hospital as the last resort for health care. Doctors treated patients in their homes; even accident victims were treated in the homes of nearby relatives or friends. Most viewed hospitals as almshouses, or refuges for the lower classes. Even the poor dreaded hospital admission since these institutions were notorious for their high death rates from infection. Yet, by the end of the nineteenth century, an increasing number of middle and upper class patients in large urban areas turned to hospitals for treatment. The number of hospitals mushroomed. According to Vogel, this increased reliance on hospital care cannot be explained merely by improved scientific techniques since the middle and upper classes began using hospitals before they embraced scientific medicine. Instead, a number of complex social, cultural, and economic reasons led to a new and positive perception of the hospital.

Vogel is professor of history at Temple University in Philadelphia and is author of *The Invention of the Modern Hospital: Boston, 1870-1930* (University of Chicago Press, 1980), co-editor of *The Therapeutic Revolution: Essays in the Social History of American Medicine* (University of Pennsylvania Press, 1979), editor of *On the Administrative Frontier of Medicine: The First Ten Years of the American Hospital Association* (Garland Publishing, in press), and author of a number of articles on the



Morris J. Vogel

history of hospitals. He also has written several books and articles on Philadelphia history, served for two years as editor of the *Pennsylvania Magazine of History*, and has coordinated and directed a number of public programs on Pennsylvania history including several documentary films and radio programs. Vogel holds a doctorate in history from the University of Chicago.

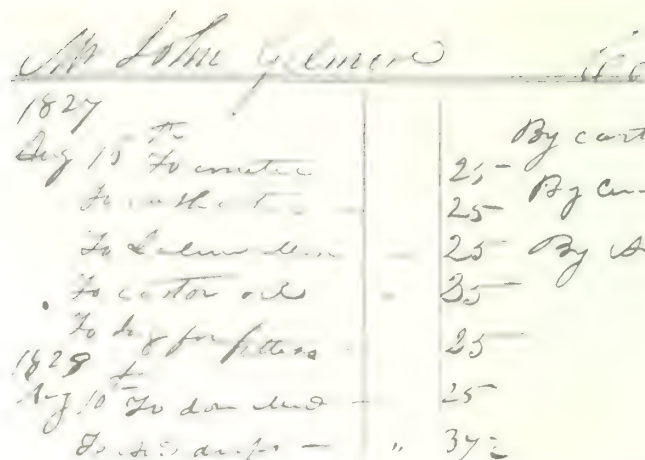
The session will also include two other papers on the history of hospitals. Bruce C. Smith, a doctoral candidate at the University of Notre Dame, will present a paper entitled, "Pathbreaking in Indiana: The New Hospitals for the Insane, 1883-1890." His paper will focus on the three mental hospitals constructed in Indiana between 1883 and 1890. The state built these institutions to relieve intolerable conditions in the county poorhouses.

(continued on Page 3)

Society Receives Physicians' Records

Nineteenth-century physicians' financial records not only help document the economics of medicine, but also reveal important information about early medical practices. Daybooks (journals), or the daily records of a physician's practice, disclose medical fees, the number of patients treated per day, and occasionally the type of treatment administered or drug dispensed. When used with local census and land records, daybooks can also provide information on the radius in which the doctor practiced and the occupation, age, and gender of the physician's patients. Ledgers, or those records revealing individual patient's accounts, can help the historian determine the number of repeat visits made to one patient, the number of patients treated by a doctor, and the percentage and amount of fees collected by the physician. Ledgers can also reveal the type of payment made by patients; during the nineteenth century, many patients paid their medical bills with produce or services.

Within the past year, the Society has received two important collections of physicians' records. Earlier this year Sparkle Guthrie Crowe, of Pennville, Indiana, donated the account books of her grandfather, William Guthrie, M.D. (1811-86). The account books span the period from 1850 to 1882. Born in Pennsylvania and a graduate of the Ohio Medical College in 1847, Guthrie practiced medicine in Dayton and Xenia, Ohio, for a short time, moved to Rossville, Indiana, and in 1861, relocated to Idaville, Indiana, where he practiced until his retirement. Mrs. Crowe also donated a number of



Dr. James B. Slaughter		
1827		
Aug 15	To center	25- By card
	To center	25- By card
	To center	25- By card
	To center	35- By card
1829		
Aug 10	To center	25-
	To center	25-
	To center	37-

Dr. James B. Slaughter ledger, recently donated to the Indiana Historical Society.

Guthrie's medical books to the Society and his saddlebags and medical equipment to the Indiana Medical History Museum.

William B. Doolittle of Louisville, Kentucky, recently donated a ledger (1818-29) and daybook (1817-32) of his ancestor, Dr. James B. Slaughter (1792-1833), of Corydon, to the Society. These materials have been in the possession of the Doolittle family since Slaughter's death. Born in Kentucky, Slaughter moved to Corydon, Indiana, in 1808. He was one of the earliest physicians in Corydon and also served in both houses of the state legislature. Slaughter's daybook contains several of his medicinal preparations, including a "cholera specific" formulated from laudanum, lavender, rhubarb, opium, diluted sulphuric acid, ammonia, and camphor. Ironically, Slaughter died in 1833 from cholera. In addition to donating these medical records, Doolittle donated a number of early Harrison County documents to the Society including an early township assessor's book and the emancipation papers of several slaves.

ISSN 0743-6033

Snakeroot Extract is a joint publication of the Indiana Historical Society's Medical History Committee (315 West Ohio Street, Indianapolis, Indiana 46202) and the Indiana Medical History Museum (Old Pathology Building, 3000 West Washington Street, Indianapolis, Indiana 46222). The newsletter is mailed to members of both the committee and the museum.

Charles A. Bonsett, M.D., *Editor*

Ann G. Carmichael, M.D., Ph.D., *Asst. Editor*

Katherine Mandusic McDonell, *Managing Editor*

Submit all items for publication in the newsletter and inquiries about membership information to the Managing Editor, c/o Indiana Historical Society, 315 West Ohio Street, Indianapolis, Indiana 46202

Snakeroot Extract derives its name from the white snakeroot plant, a plant that is significant in Indiana medical history. For years, a mysterious disease called milk sickness plagued early Hoosiers. There were many theories as to the disease's cause, but the actual cause remained unknown until the 1920s. At that time, the disease was traced to the white snakeroot plant or, rather, to the consumption of milk from cows that had eaten it. The plant contains the poison tremetol.



Ledgers and medical equipment of Dr. William Guthrie, recently donated to the Indiana Historical Society and Indiana Medical History Museum, respectively.

Society Sponsors Session

(continued from Page 1)

Acknowledging past practices, state officials entrusted with the design and construction of the new facilities embarked on a measured, yet ambitious, plan for three very different types of facilities. All reflected, however, a growing sense of need for compassionate mental health care. The architectural styles of the hospitals at Evansville, Richmond, and Logansport reflect this attitude. Two of these structures were unprecedented in detail and inspiration for their day, and the third marked a more gradual evolutionary departure from contemporary norms.

Katherine Mandusic McDonell, medical research historian at the Indiana Historical Society and curator of the Indiana Medical History Museum, will present a paper

(continued on Page 4)

Volunteers Join Museum Staff

Five new volunteers have joined the staff of the Indiana Medical History Museum over the past three years. The projects they have undertaken there reflect the diversity of volunteer opportunities at the museum. Each year the Marion County Medical Society Auxiliary advertises volunteer openings at the museum to its membership. Thus, it is not surprising that four of the five volunteers are members of the Auxiliary.

Jean Tinsley, wife of Indianapolis anesthesiologist Walter B. Tinsley, Jr., M.D., joined the museum staff three years ago. She has a bachelor's degree in bacteriology, and she worked for several years in the pediatric research laboratory at Riley Hospital and as office manager for her husband. She and her husband have three children. During her tenure at the museum, Tinsley has helped photograph the museum's collection. A photographic record of each item in the collection is important for future identification of the artifact. She has also helped inventory the museum's collection of over 2,000 medical books.

Last year Marley Jesseph, Karen Shoemaker, and Cindy Ziperman volunteered their services to the museum. Jesseph was married to the late John Jesseph, M.D., who was chairman of the Department of Surgery at Indiana University. She has two sons, one of whom is a physician and the other an outplacement counselor. She is presently serving as the liaison between wives whose husbands are resident physicians in local hospitals and the Marion County Medical Society Auxiliary. Although she has a degree in speech education, she notes that she has always been fascinated by history. Jesseph is training as a tour guide for the museum. A volunteer guide force will



Drawing of the Southern Hospital for the Insane, Evansville, ca. late nineteenth century. In the collection of the Indiana State Library.

be necessary as the museum extends its hours and expands its school programs

Karen Shoemaker and Cindy Ziperman, both of Indianapolis, have inventoried all of the chemicals in the museum's historic laboratories. Many of these chemicals were used in routine laboratory work in the building. Over the years, however, some of these chemicals have deteriorated. While many chemicals become inert over time, others became flammable or explosive. The inventory prepared by these two volunteers will be given to the county board of health so those chemicals posing a threat to the building or visitors and staff can be safely removed. Shoemaker has both a bachelor's and master's degree in education and has taught first grade for six years in Zionsville. Her husband, Robert E. Shoemaker, M.D., is a cardiovascular surgeon in Indianapolis. They have two children. Ziperman, the wife of Indianapolis cardiologist Don Ziperman, is a graduate of Indiana University School of Nursing, where she specialized in cardiovascular surgery. She and her husband have two children.

The newest addition to the volunteer staff is William H. Heaton, a native of Indiana, who recently retired from the Veteran's Administration Hospital in Indianapolis where he worked in the research laboratory. He and his wife live in Southport. Heaton is researching the original laboratory equipment in the Old Pathology Building. Since the building was used for approximately seventy years as a laboratory, the structure contains equipment dating from the late nineteenth century to the 1960s. The museum plans to restore and interpret the laboratories as they were in the early twentieth century. Heaton is using early inventories of the building to determine its original contents. He will compare this list to the inventory of equipment presently in the building. The museum staff will then remove equipment which is later than the 1920s from exhibition and conduct a search to locate old equipment appropriate to the building.

Many other volunteer opportunities exist at the museum. Anyone interested in volunteering should contact Katherine McDonell, Indiana Medical History Museum, Old Pathology Building, 3000 West Washington Street, Indianapolis, Indiana 46222 (317/635-7329)

Society Sponsors Session

(continued from Page 3)

entitled "Scientific Charity vs. Scientific Medicine: Care of the Sick Poor in Late Nineteenth-Century Indianapolis." During the late nineteenth century, Indianapolis, like many other American cities, developed an elaborate system of public and private charity. This charity or relief included hospital care, dispensaries, and visiting physician services for the sick poor. The philosophy behind scientific charity was to systemize charity, centralize donations, and reduce the number of unworthy poor receiving assistance. In Indianapolis, the Charity Organization Society and Indianapolis Benevolent Society oversaw the work of private charities. The Indiana State Board of Charities, formed in 1889, oversaw the work of various governmental agencies providing assistance to the poor. These two umbrella agencies, however, often duplicated efforts, suffered from financial woes, and failed to accommodate physicians' needs for clinical training.

M. Jeanne Peterson, Ph.D., chair of the Department of History at Indiana University and president of the Indiana

NOTICE: The Indiana Medical History Museum will hold its annual business meeting on Saturday, October 22, 1988, at 10 a.m. at the Radisson Plaza Hotel. The meeting is being held in conjunction with the Indiana State Medical Association Convention. All members of the museum are invited to attend.

**Indiana Historical Society
Indiana Medical History Committee
315 West Ohio Street
Indianapolis, IN 46202**

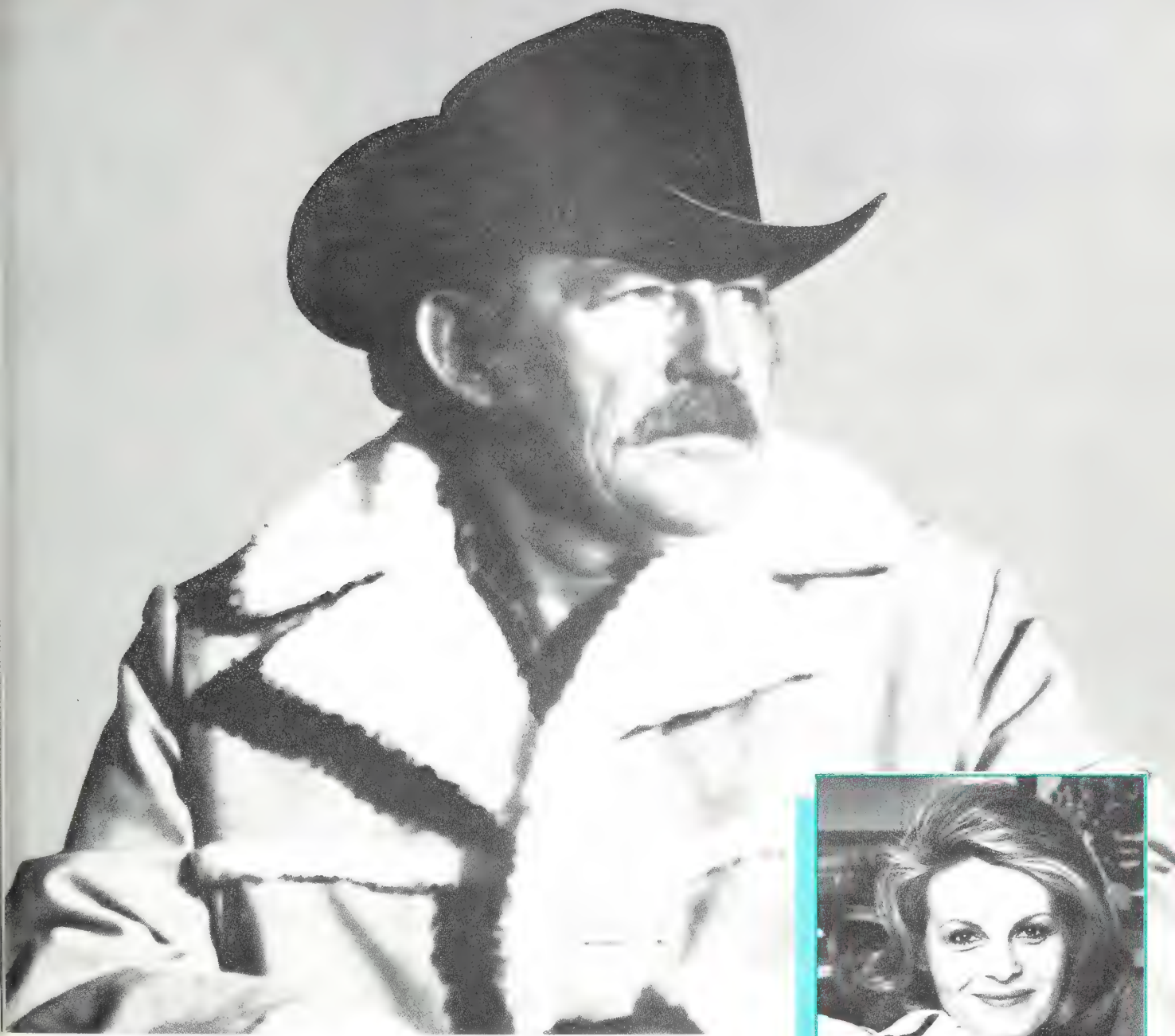


Interior of a county almshouse, early twentieth century. Photograph taken from The Indiana Bulletin of Charities and Correction, December, 1913.

Association of Historians, will moderate the session. Peterson is author of *The Medical Profession in Mid-Victorian London* (University of California, 1978), as well as several articles about the British medical profession.

Those interested in attending these sessions on the changing role of the hospital must register for the Society's Annual History Conference. The program begins at 9 a.m. on Saturday, November 5, 1988, at the Airport Holiday Inn in Indianapolis. For more information about the conference, please contact the Indiana Historical Society, 315 West Ohio Street, Indianapolis, Indiana 46202 (317/232-1882).

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CME QUIZ

TO OBTAIN ONE HOUR OF CATEGORY 1 AMA CME CREDIT, answer the following questions by circling the correct answer on the answer sheet below. Complete and clip the application form and mail it to: Indiana University School of Medicine, CME Division, BR 156, 1226 W. Michigan St., Indianapolis 46223.

Congenital Heart Disease

CONTINUED FROM PAGES 829-834

1. Approximately what percentage of children with Down's syndrome will have congenital heart disease?
 - a. 25%
 - b. 40%
 - c. 75%
 - d. 90%
2. If a child with Down's syndrome has significant congenital heart disease, he will always have obvious clinical findings by one month of age.
 - a. True
 - b. False
3. All of the following are symptoms of congestive heart failure except:
 - a. cyanosis
 - b. poor weight gain
 - c. respiratory distress
 - d. diaphoresis
4. The presence of an apical or xyphoid diastolic murmur in a left-to-right shunting lesion is indicative of:
 - a. tricuspid or mitral regurgitation
 - b. large left-to-right shunt
 - c. pulmonary stenosis
 - d. aortic stenosis
5. All of the following are consistent with the diagnosis of complete AV canal except:
 - a. EKG with northwest axis
 - b. borderline normal or normal CXR
 - c. normal 2D echo
 - d. normal physical exam
6. The loss of a previously auscultated diastolic murmur in a one-year-old with Down's syndrome and congenital heart disease is worrisome for:
 - a. improving cardiovascular exam
 - b. increasing pulmonary obstructive disease
 - c. no significance
 - d. worsening tricuspid regurgitation
7. Current therapy for congestive heart failure in children should always include an ACE inhibitor.
 - a. True
 - b. False
8. All of the following are potential complications of pulmonary artery banding except:
 - a. worsening cyanosis
 - b. early graft infection
 - c. persistent or unimproved congestive heart failure
 - d. worsening of previously diagnosed AV valve regurgitation
9. If a congenital heart lesion is present in a child with Down's syndrome, the incidence of an associated lesion is:
 - a. 1 in 10
 - b. 1 in 5
 - c. 1 in 3
 - d. 1 in 2
10. The most common associated congenital heart lesion is:
 - a. tetralogy of Fallot
 - b. PDA
 - c. aortic stenosis
 - d. ASD secundum
11. If left untreated, the five-year mortality rate for children with complete AV canal is:
 - a. less than 10%
 - b. less than 20%
 - c. less than 30%
 - d. greater than 40%
12. The most sensitive means of detecting increased pulmonary artery pressures is by:
 - a. EKG
 - b. 2-D echo-Doppler
 - c. cardiac catheterization
 - d. nuclear shunt study

SEPTEMBER CME QUIZ Answers

Following are the answers to the CME quiz that appeared in the September 1988 issue: "Brain Abscess."

- | | |
|------|-------|
| 1. d | 6. c |
| 2. c | 7. d |
| 3. b | 8. a |
| 4. d | 9. c |
| 5. d | 10. c |

Answer sheet for Quiz: (Congenital Heart Disease)

- | | |
|------------|-------------|
| 1. a b c d | 7. a b |
| 2. a b | 8. a b c d |
| 3. a b c d | 9. a b c d |
| 4. a b c d | 10. a b c d |
| 5. a b c d | 11. a b c d |
| 6. a b c d | 12. a b c d |

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To be eligible for this month's quiz, send your completed, signed application before Nov. 10, 1988, to the address appearing at the top of this page.

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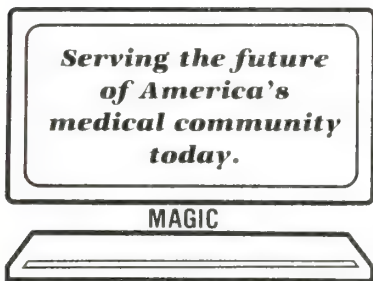
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THE AMERICAN CANCER SOCIETY will conduct its 13th annual Midwest Oncology Workshop Oct. 14 at the Holiday Inn Airport in Indianapolis. "Strategies for Balancing Essential Components of Cancer Care" is the theme. The workshop is for nurses, pharmacists and other health care workers interested in updating their oncology knowledge.

The purpose of the program is to provide updated clinical oncology current concepts, to serve as a multidisciplinary forum for the exchange of information among clinical oncology practitioners, to relate emerging research findings of significance in current and future cancer care and to increase awareness and involvement in the various facets of cancer care.

Upon completion of the workshop, participants should be able to discuss technological advances in clinical immunology, describe current trends in cancer therapy related to bone marrow colony stimulating factor, understand stress and psychological factors related to cancer, understand the family's perspective concerning cancer treatment experiences, describe recent ad-

vances in bone marrow transplant therapy and identify current alternatives for effective pain control and use various strategies to enhance quality in the patient's experience.

For more information, call the medical affairs department at the American Cancer Society, (317) 923-2225.

A PEER SUPPORT GROUP FOR CANCER SURVIVORS was formed earlier this year by the Cleveland Clinic Cancer Center. The Cleveland chapter of the National Cancer Survivors Group organized Expo '88 as a kick-off for the peer support group after cancer patients had expressed the need for a support group for individuals who continue to live with the physical and emotional effects of cancer. For information on starting a group, call (216) 444-2444.

CHALLENGES IN HEMATOLOGY AND HEMATOPATHOLOGY is the title of a workshop to be held Jan. 16-20, 1989, in Breckenridge, Colo. Participants will learn about the newest ancillary methods, improve

interdisciplinary communication skills and gain more insight into difficult differential diagnoses. For workshop reservations, write to the workshop sponsor, Mayo Medical Laboratories, Mayo Clinic, Sue Walters, 270 Hilton, Rochester, Minn. 55905. For condominium reservations at Breckenridge Resort, call 1-800-321-8552.

THE UNIVERSITY OF TEXAS M.D. ANDERSON CANCER CENTER will present an international symposium emphasizing the multidisciplinary approach. "Optimizing Management of Primary Bone Tumors" will be held Nov. 2-5. The conference encompasses different clinical-pathologic aspects of bone tumors and will culminate in the discussion of new approaches to clinical management. Special attention will be given to advances in the management of osteosarcoma.

The advance registration fee is \$300. To register, write to: 1988 Clinical Conference, Conference Services, HMB 131, M.D. Anderson Cancer Center, 1515 Holcombe Blvd., Houston, Texas 77030.

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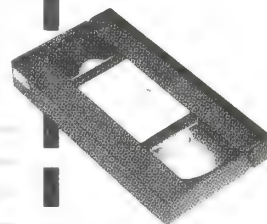
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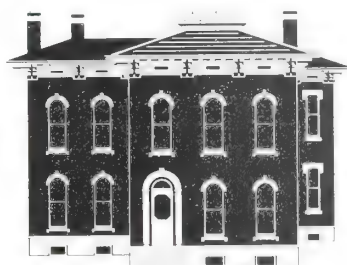
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NEWS NOTES

Program Monitors Lab Quality Control

The College of American Pathologists (CAP) has announced its 1989 External Comparative Evaluation for Laboratories (EXCEL) program. EXCEL, designed by physicians specifically for physician office laboratories, offers a flexible program physicians can tailor to their own testing situation.

This program monitors the laboratory's internal quality control by providing information on its performance and comparing that performance with other physician office laboratories doing identical procedures by the same or similar methods.

Marion Releases HMO Edition of Digest

The 1988 edition of the "Marion Managed Care Digest—HMO Edition" has been released. Marion Laboratories reports that the first PPO edition of the "Digest" was scheduled to appear in July or August. An update combining financial data for both the HMO and PPO markets will appear this month or in November. The publication, which started last year, has a circulation of over 20,000 managed care and corporate executives and other health care providers.



Methodist Hospital Honored for TV Show

Methodist Hospital of Indiana and two of its medical staff have received an Award for Excellence from the American College of Emergency Physicians for a television feature on emergency medicine.

The program spotlighted Methodist's full range of emergency services and staff members Richard Graffis, M.D., general surgeon, and Joseph Phillips, M.D., medical director of Emergency Medicine and Trauma Center. The program was part of the "Health Matters" series that airs each Sunday at 11:30 a.m. on WISH-TV, Channel 8, in Indianapolis.

New Health Care Graphics Available

A new, quarterly camera-ready art series for health care communicators has been announced by Dynamic Graphics. The first issue will come out in January 1989, followed by quarterly issues in April, July and October.

The 9½" x 12" pages will be pre-punched for storing in a three-ring binder that comes free with the subscription. Each issue will feature 50 to 60 illustrations and graphics directed to health care, wellness and fitness, and nutrition professionals.

Complete information is available by writing: Dynamic Graphics, Inc., 6000 N. Forest Park Drive, Peoria, Ill. 61614; or calling (800) 255-8800.

New Research Diagnostic AIDS Test Developed

Applied bioTechnology (AbT) announced recently that it has developed a new research diagnostic AIDS test, in collaboration with the University of Massachusetts Medical Center, that detects the presence of the human immunodeficiency virus (HIV) and can measure viral levels.

AbT will begin marketing the test to AIDS researchers by the end of 1988 and intends to use the technology to develop a test for clinical use.

NLM's AIDS Database Available Online

The National Library of Medicine (NLM) and the NIH Office of AIDS Research have announced a new database containing some 13,000 references to scientific articles about AIDS. AIDSLINE joins the family of databases made available widely through NLM's online network.

References in AIDSLINE cover the clinical and research aspects of the disease, epidemiology and health policy issues. Many of the records include an abstract in English. Listed articles cover the period 1980 to the present. The database is updated twice each month with the addition of 200 to 300 records.

Health professionals wanting access to AIDSLINE may join the NLM network by requesting a user code. Telephone inquiries about AIDSLINE and a software program, GRATEFUL MED, that makes online searching easier and more efficient, may be made to NLM's MEDLARS Management Section at (301) 496-6193 or (800) 638-8480.

The National Library of Medicine also publishes a quarterly AIDS Bibliography that lists references by sub-topics. Subscriptions (\$12 US, \$15 foreign) may be sent to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Here and There ...

Dr. Daniel P. Akin of New Albany held a one-day seminar in August on the techniques of using the laser for head and neck surgery with emphasis on removal of tonsils and adenoids.

Dr. David M. Dersch of Muncie presented a program in August entitled "The History and Mystic Problems of Womanhood"; menopause and premenstrual syndrome were the topics.

Dr. Thomas F. Keough of Warsaw was honored in August for his accomplishments by an Appreciation Day Open House in Warsaw.

Dr. David L. Spalding of Mishawaka was named Indiana Family Physician of the Year by the Indiana Academy of Family Physicians at its state conference in August; he will be Indiana's entry for National Family Physician of the Year competition.

Dr. Kristine A. Hess was honored by St. Vincent Hospital and Health Care Center in Indianapolis for distinguished teaching; **Dr. Robert H. Love** for therapeutic achievement; **Dr. Thomas G. Slama**, **Dr. Charles F. Hasbrook**, and **Dr. Robert M. Colver**, teachers of the year; and **Dr. Mark A. Wyant** and **Dr. Kevin B. Trewartha**, medical education.

Dr. Samuel M. Wentworth of Danville developed a series of outpatient diabetic education classes presented in August at Hendricks Community Hospital.

Dr. Henry E. Montoya of Indianapolis lectured on the process of aging bones and their treatment before senior citizens at the Eagle Valley Retirement Community in July.

Dr. Donald D. Roberts of Columbus has received board certification in critical care medicine from the American College of Physicians.

Dr. Linda C. McQuinn of Fort Wayne has been appointed by Gov. Robert D. Orr to a four-year term on the state's Emergency Medical Services Commission.

Dr. Jeffrey F. Granger of Logansport has been named a diplomate by the

American Board of Orthopaedic Surgery.

Dr. Joseph W. Young and **Dr. Michael E. Pauszek** of Franklin gave informational lectures at the Greenwood Village South health fair in August.

Dr. John A. Forchetti, East Chicago, spoke on "Sports Cardiology" at the Sports Med Clinic and Carbo Loading Party held at Chesterton in August.

Dr. William B. Fisher, **Dr. Joseph M. Songer** and **Dr. Doyle L. Stephens** were awarded \$5,000 by the Hoosier Oncology Group (HOG) of the Walther Medical Research Institute, Indianapolis, to continue their cancer research; they are members of the Ball Memorial Hospital clinical staff in Muncie.

Dr. Robert M. La Salle of Wabash was presented a plaque by the American Board of Surgeons for his part in starting the oncology program at Wabash County Hospital and helping the program to earn accreditation by the American Board of Surgeons.

Dr. Glenn J. Bingle of Indianapolis spoke to senior citizens about osteoporosis during a July program at Community Hospital North.

Send your news items and comments to the Editor, *INDIANA MEDICINE*, 3935 N. Meridian St., Indianapolis 46208.

Dr. David Solotkin of Indianapolis spoke to senior citizens about health and aging during a June program at Community Hospital North.

Dr. S. Gopal Raju, Marion, presented three papers before the First World Postgraduate Surgical Week of the University of Milan, XXVI World Congress of the International College of Surgeons in Milan, Italy, in July.

DEPRESSION

CONTINUED FROM PAGE 852

- Acknowledge that the person is suffering and in pain.
- Smile and encourage honest effort.
- Offer kind words and pay compliments.
- Show that you care about, respect and value the depressed person.

More Help Is Available

Under the direction of Dr. Dunlop, symposiums on recognizing and treating depression in medical practice are being conducted in Fort Wayne Oct. 15 and in Merrillville Nov. 5. Additional symposiums will be scheduled in the spring. Funding for the symposiums has been provided by a \$100,000 grant awarded to the Indiana University School of Medicine Department of Psychiatry by the NIMH for the continuing education of physicians, social workers and nurses.

Physician Recognition Awards



The following ISMA physicians are recent recipients of the AMA's Physician Recognition Award. This award is official documentation of Continuing Medical Education hours earned, and is acceptable proof in most states requiring CME in re-registration that the mandatory hours of CME have been accomplished.



Bicalho, Jose F., Merrillville
Chernish, Stanley M., Indianapolis
Conway, Mark F., Greencastle
Cronen, Paul W., Madison
Forry, Allen E., Granger

Gabovitch, Edward R., Indianapolis
Meier, Donald W., Bluffton
Perez, Adela M., Dyer
Roth, Bertram S., Indianapolis
Samaddar, Prasoon K., Bedford
Sprecher, James J., LaPorte

Stephan, Peter D., Fort Wayne
Tower, James H., Shelbyville
Turrell, Eugene S., Indianapolis
Umphrey, James E., Bluffton
Williams, Michael A., Indianapolis

OBITUARIES

Truman E. Caylor, M.D.

Dr. Caylor, 88, co-founder of the Caylor-Nickel Medical Center, Bluffton, died July 31 at that hospital.

He was a 1934 graduate of Rush Medical College in Chicago.

Dr. Caylor founded the clinic in 1939 with his father, Dr. Charles E. Caylor; his brother, Dr. Harold Caylor; and Dr. Allen Nickel. He was former president of the hospital and the Caylor-Nickel Research Institute and was director emeritus of both. Dr. Caylor retired from the practice of urology in 1980. He retired in 1984 as president of the research foundation. Outside of his medical practice, Dr. Caylor was active in Rotary, the Bluffton Masonic Lodge, the Scottish Rite and Shrine and was instrumental in the development of the Yokefellow House at Earlham University.

Avery L. Coddens, M.D.

Dr. Coddens, 66, a Fowler physician and Benton County's health officer, died June 28 at Home Hospital in Lafayette.

He was a 1950 graduate of the Indiana University School of Medicine. During World War II, he served as a medic in Southeast Asia.

Dr. Coddens served as Benton County's health officer for 15 years and was on the staff of Home Hospital in Lafayette.

Ralph E. Zwickel, M.D.

Dr. Zwickel, 76, Newburgh, died June 9 at Deaconess Hospital in Evansville. Dr. Zwickel practiced medicine for 50 years before his retirement.

He received his medical degree from the University of Louisville in 1937.

From 1940 to 1949, except for three years of military service, he practiced general medicine. He practiced internal medicine in Evansville from 1952 until 1974. Dr. Zwickel was later employed from 1977 to 1982 at the Veterans Administration Clinic in Evansville. Dr. Zwickel was a member of the American Society of Internal Medicine and the ISMA Fifty Year Club.

George M. Hamilton, M.D.

Dr. Hamilton, 59, Fort Wayne, died June 27.

He was a 1954 graduate of the Indiana University School of Medicine. He served as a lieutenant commander in the U.S. Navy from 1957 to 1959.

A specialist in internal and geriatric medicine, Dr. Hamilton was a clinical professor at the Indiana University School of Medicine and directed the transitional residency program in the Fort Wayne Medical Education Program. He was on the staff at Parkview Memorial Hospital.

George H. Springstun, M.D.

Dr. Springstun, 92, Oaktown, died Aug. 3 at his home. He had retired from general practice in 1986.

He was graduated in 1923 from the University of Louisville Medical School. Dr. Springstun was a World War I veteran.

Dr. Springstun was born into a medical family. His father and two brothers were also doctors.

Max S. Norris, M.D.

Dr. Norris, 67, an internist, died Aug. 3 at his Indianapolis home.

He was graduated from the Indiana University School of Medicine in 1949. During World War II, he was with the U.S. Army Corps of Engineers in Europe and earned a battlefield commission in 1945. He also earned a Purple Heart and Bronze Star Medal.

Dr. Norris was elected to the Butler University Board of Trustees in 1970 and was board chairman from 1978 to 1985. He continued to serve on the board until his death. Dr. Norris received the Butler Medal in 1985 in honor of his outstanding contributions to the school. His long commitment to the Boy Scouts earned him scouting's highest honor for volunteer service, the Silver Buffalo Award. Dr. Norris also was named a Sagamore of the Wabash by then-Governor Otis R. Bowen, M.D.

Memorials: Indiana Medical Foundation

The Indiana Medical Foundation, Inc. was formed by the Indiana State Medical Association "for religious, charitable, scientific, literary or educational purposes." It provides financial assistance to support the educational mission of INDIANA MEDICINE.

Contributions made to the Foundation are deductible by donors in accordance with the Internal Revenue Code. Gifts are deductible for Federal estate and gift tax purposes.

The Foundation is pleased to acknowledge the receipt of gifts in remembrance of the following individuals:

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J. Melvin Masters, M.D.
Nancy A. Roeske, M.D.
Eugene S. Rifner, M.D.
Elsie A. Reid

Lester D. Bibler, M.D.
Lloyd A. Vogel, M.D.
Arvine G. Popplewell, M.D.
Mildred Ramsey
Richard Sharp
John Bush

Bennett Kraft, M.D.

Dr. Kraft, 85, Sarasota, Fla., and formerly of Indianapolis, died July 20. He was a 1931 graduate of the Indiana University School of Medicine.

Dr. Kraft, an allergy specialist, was in private practice from 1935 until 1976. He established the allergy clinic at Indianapolis City Hospital (now Wishard Memorial Hospital).

He was a member of the American Academy of Allergists and was a past president of the Psychosomatic Group of the American College of Allergists. He was a fellow of the American College of Chest Physicians.

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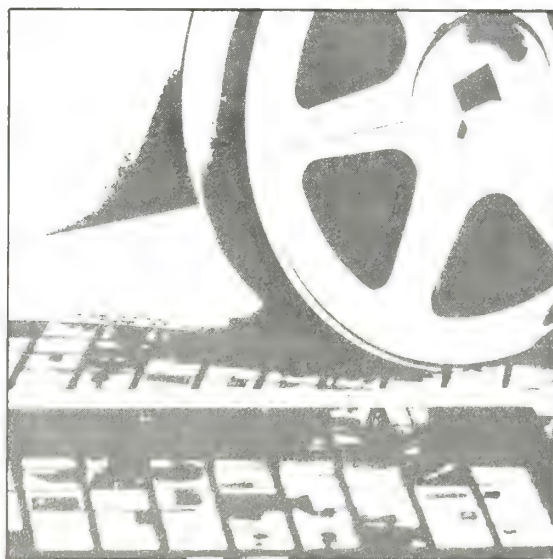
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TEEING UP FOR SUPERB PERFORMANCE

By Arthur R. Pell, Ph.D.

Consultant, Dale Carnegie & Associates, Inc.

Phil Carrol accepted the congratulations graciously. He had won the club championship for the third consecutive year. A reporter from the local paper asked: "Phil, you're our undisputed golf champ. What advice can you give the rest of us on how we can improve our performance?" Without hesitation, Phil responded: "It begins with the way you tee up."

"Tee up?"

All performance whether it be on the golf course or on the job starts with the tee-up. Before the first ball is hit or the job assignment is undertaken, it is what is done to prepare for it that will make the difference between adequate and superb performance. Teeing up is not just putting the ball on the tee, but all that has been done before the game to master it.

Technical competence

The first step is to acquire as much knowledge about the subject as possible. Just as in any sport, one must learn the basics and then the more complex aspects of the game, becoming technically competent in the field of one's endeavor is essential to top performance.

Darlene Thompson was intrigued by the new technologies in medical diagnosis and treatment. As a nurses' aid at Mercy Hospital, she observed but did not operate this new equipment. At every opportunity, Darlene went down to the department where this equipment was being used. She spoke to the technicians and was given literature she could study. She was particularly interested in the use of the ultra-sound machine, which is used to identify many internal problems. She then enrolled in a training program, and was certified as a Registered Diagnostic Medical Sonographer and was transferred to full-time work in this capacity. Most people obtaining this certification would be satisfied to get such a job, but Darlene wanted to be more than just a good worker; she aimed to be the best possible technician. She continued her studies, volunteered to work on special projects with the physicians using the equipment. In a relatively short time, Darlene was the most technically knowledgeable sonographer in the hospital and was on her way to a successful career in this field.

Training

Training does not stop when one has acquired technical competence. The best athletes will continue to train no matter how successful they are. They know that the need for training never ends.

Sam Fredericks is a successful salesperson who does not believe he will ever complete his training. "There is so much I have to learn," he complains. Every year, Sam takes at least one training course in salesmanship or product knowledge. He schedules time every week to read books and listen to training tapes. This has resulted in Sam's continuing improved performance in servicing his customers and increasing his sales.

Teach Others

Another way to perfect your own skills is to teach others. Not only does this enable you to systematically review what you have been doing and reinforce it for yourself, but one often learns from the trainee. Questions asked and suggestions made by the trainee can lead to more knowledge about one's own field.

Ann Capri is the supervisor of word processing for a political action committee. With election time nearing, she

hired two additional operators and had to train them. In order to assure that these trainees would be taught rapidly and efficiently, Ann set up a training plan. The process of developing this plan forced Ann to rethink many of the techniques that she had been using herself. She recalled some short cuts and special approaches that she had not used in years and came up with some new ideas. Once the training began, the interaction between Ann and the trainees stimulated her to improve her own performance and increase her personal productivity.

Trying

Champions never say "It can't be done." They try to find a way to overcome the obstacles. Even champions don't always win, but they never lose without first trying to win.

Norman Strauss, an industrial painting contractor in New York City, was faced with a major problem. His bid for the job of painting Madison Square Garden, New York's largest indoor sports arena, was due by the end of the week. The major problem was painting the ceiling, which was 110 feet above the first floor. The usual way of reaching the ceiling was constructing a pipe platform on which the painters would stand when they sprayed the ceiling. The cost of building the platform would be the same for all bidders. The only way to significantly reduce the bid would be to find some way to paint the ceiling of the building without building the pipe platform. Everybody knew this couldn't be done, so why bother?

But Norman Strauss did not give up easily. He believed that to achieve success one must never cease trying to solve a problem. On the way home that evening, Norman noticed an electric company repainting a high street light. To reach this light, they were using a "cherry picker," a truck with an elevator on its roof that could be raised to various heights. "Why not use cherry pickers to reach the ceiling at the Garden," Norman thought. Investigation the next day brought out that it was feasible and economical. Strauss was able to submit a significantly lower bid than his competitors and obtained the job.

Think

The final step in the teeing up process is thinking. Before commencing the game or the job, it is essential that it be thought out. A good golfer thinks out how he or she will play the hole before making that first drive. A superb performer thinks out how the job will be performed before beginning the project.

In a complex operation, as much time must often be given to the planning as to the work itself. Before making a sales call, the successful sales representative thinks carefully about all of the possible problems that may develop and how they can be handled. Executives think about every ramification any of their decisions may cause before making that decision. This is also true of top performers in the theater, cinema, television or in sports.

You can become a superb performer by teeing up properly for all of your endeavors. Become technically proficient, never cease training, teach others, try — especially when things get tough and think before you begin.

Pocket/purse size reprints may be purchased (10 for \$10.00) or (25 for \$20.00) from Dale Carnegie & Associates, Inc. 1475 Franklin Avenue, Garden City, NY 11530

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INTERNIST BE/BC: North Shore Internal Medicine, PC is seeking an energetic general internist to enjoy the benefits of a rapidly expanding practice. New office close to hospital. Michigan State Medical School Campus. Send resume to 2420 First Avenue South, Escanaba, MI 49829—(906) 786-1563.

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IMMEDIATE CARE PHYSICIANS WANTED—Need to be trained and/or experienced in areas of medicine which deal with acute/urgent care, such as minor trauma, acute illnesses and injuries, and physical exams in all age groups. No hospital work. Greater Indianapolis area. Well known group. Good salary/fringe benefit package. Contact: Michael D. Bishop, M.D., FACEP, Emergency Care Physicians, 640 S. Walker St., Ste. A, Bloomington, IN 47401—(812) 333-2731.

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MID-NORTH INDIANA—BC/BE pediatrician wanted for 72-M.D., expanding multispecialty group. Clinic-owned 25,000 member HMO, in addition to large fee-for-service practice. Seven-person department including BC neonatologist. Community's excellent economy and schools a plus. Big Ten University. One hour from Indianapolis, two hours from Chicago. CV to: W. Riggs, M.D., Arnett Clinic, 2600 Greenbush Street, Lafayette, IN 47904. (317) 448-8000 collect.

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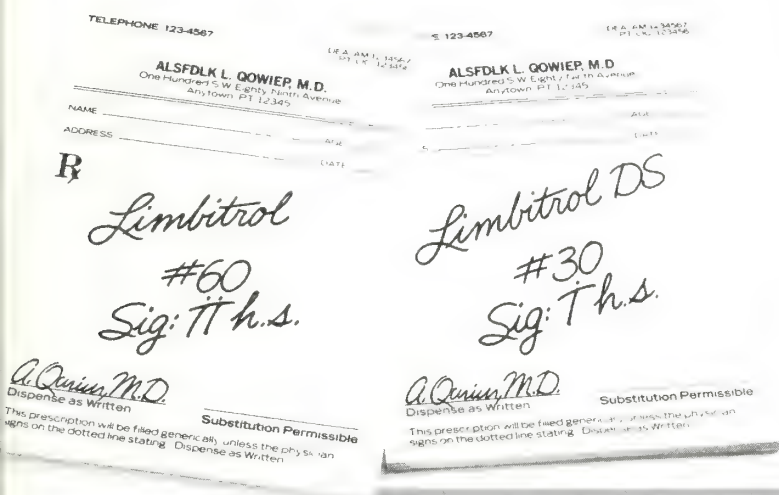
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Warnings: Use with caution in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur when used with anticholinergics. Closely supervise cardiovascular patients. Arrhythmias, sinus tachycardia, prolongation of conduction time, myocardial infarction and stroke reported with tricyclic antidepressants, especially in high doses. Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

Usage in Pregnancy: Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations. Consider possibility of pregnancy when instituting therapy.

Withdrawal symptoms of the barbiturate type have occurred after discontinuation of benzodiazepines (See Drug Abuse and Dependence).

Precautions: Use cautiously in patients with a history of seizures, in hyperthyroid patients, those on thyroid medication, patients with impaired renal or hepatic function. Because of suicidal ideation in depressed patients, do not permit easy access to large quantities of drug. Periodic liver function tests and blood counts recommended during prolonged treatment. Amitriptyline may block action of guanethidine or similar antihypertensives. When tricyclic antidepressants are used concomitantly with cimetidine (Tagamet), clinically significant effects have been reported involving delayed elimination and increasing steady-state concentrations of the tricyclic drugs. Use of Limbitrol with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Should not be taken during the nursing period or by children under 12. In elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects. Inform patients to consult physician before increasing dose or abruptly discontinuing this drug.

Adverse Reactions: Most frequent: drowsiness, dry mouth, constipation, blurred vision, dizziness, bloating. Less frequent: vivid dreams, impotence, tremor, confusion, nasal congestion. Rare: granulocytopenia, jaundice, hepatic dysfunction. Others: many symptoms associated with depression including anorexia, fatigue, weakness, restlessness, lethargy.

Adverse reactions not reported with Limbitrol but reported with one or both components or closely related drugs: **Cardiovascular:** Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke. **Psychiatric:** Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania, increased or decreased libido. **Neurologic:** Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns. **Anticholinergic:** Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract. **Allergic:** Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus. **Hematologic:** Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia. **Gastrointestinal:** Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue. **Endocrine:** Testicular swelling, gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion. **Other:** Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

Drug Abuse and Dependence: Withdrawal symptoms similar to those noted with barbiturates and alcohol have occurred following abrupt discontinuance of chlordiazepoxide; more severe seen after excessive doses over extended periods; milder after taking continuously at therapeutic levels for several months. Withdrawal symptoms also reported with abrupt amitriptyline discontinuation. Therefore, after extended therapy, avoid abrupt discontinuation and taper dosage. Carefully supervise addiction-prone individuals because of predisposition to habituation and dependence.

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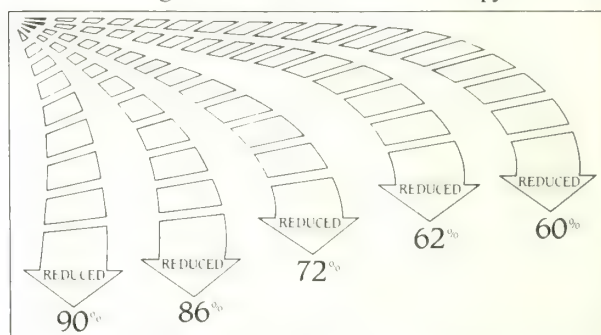
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And The Weeks That Follow

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- First-week reduction in somatic symptoms¹

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*Patients often presented with more than one somatic symptom.

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NOVEMBER 1988

VOL. 81

NO. 11

INDIANA MEDICINE

The Journal of the Indiana State Medical Society

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NOVEMBER 1988

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ABOUT THE COVER

The new Indiana University Medical Research and Library
Building on the I.U. Medical Center campus in Indianapolis
is scheduled to open in March 1989. The gleaming glass
pyramids will house part of the library. For more informa-
tion on the facility, see the story in this issue.—PHOTO BY
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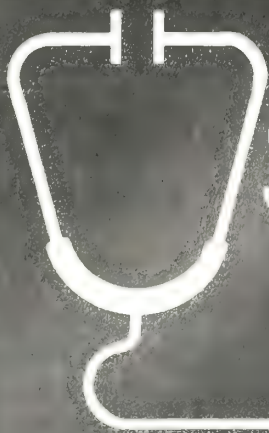
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STETHOSCOPE

EXAMINING STATE & NATIONAL MEDICAL ISSUES

AMA has called a Nov. 13 meeting in Chicago so that representatives from the national medical specialty societies, the state medical associations and the county medical societies can review and discuss the just released Harvard RBRVS report.

As part of the AMA's efforts to thoroughly evaluate the results of the RBRVS study, AMA's Center for Health Policy Research is developing a simulation analysis to determine how it would impact upon Medicare physician payment under a variety of possible implementation scenarios. The RBRVS will also be discussed at the AMA Interim Meeting in Dallas, Dec. 4-7.

Still concerning the RBRVS, the American Society of Internal Medicine has assembled two packets to help explain this new proposal to reform how physicians are paid. "Everything You Always Wanted to Know About the Harvard RBRVS" covers in a question and answer format the context of reforming the system; alternatives to the current system; how the RBRVS was developed and what's next. ASIM has also put together materials on how to lobby this issue. Copies are available from ASIM, 1101 Vermont Ave., N.W., Suite 500, Washington, D.C., 20005.

President Reagan has appointed AMA President James E. Davis, M.D., to serve on the new U.S. Bipartisan Commission on Comprehensive Health Care. The commission was established under the Medicare Catastrophic Coverage Act of 1988. The 15-member commission will examine shortcomings in the nation's health care delivery system and make recommendations to the HHS Secretary on a variety of comprehensive care services. Included will be custodial and non-custodial services for the elderly.

The commission will have a 10-year lifespan.

Medicare assignment is on the upswing. Seventy-eight percent of all charges for physician services under Medicare were assigned, according to figures from the latest accounting period. Currently 37.3 percent of the physicians who see Medicare patients are participating physicians. This indicates that more physicians are accepting assignment on a case-by-case basis.

The AMA points out that one year ago more than 267,000 Medicare beneficiaries were millionaires.

Both the House and the Senate have passed HR 5471, the new clinical labs amendment bill. This version was modified to exclude previous direct billing and self-referral provisions which the AMA objected to. The bill still must be signed by the President.

IN INDIANA...

The Medicare Assistance Program (MAP) will get under way this month in Montgomery County. The program is to identify low-income elderly Medicare recipients and improve their access to needed medical care. Medicare beneficiaries certified through the MAP income verification process will receive a card which they can present to their doctor when they seek medical care. The doctor agrees to voluntarily accept Medicare assignment for patients certified for the program.

Income guidelines were developed jointly by the Montgomery County Medical Society and representatives from the various aging organizations. Persons who are 65 or older and have an income of less than \$8,655 a year, or if their and their spouse's income is less than \$11,595 a year, are eligible. These figures represent 150 percent of the poverty level.

Volunteers from the aging groups will determine eligibility and register MAP enrollees.

MAP is based on similar programs in 11 states which are conducted by state medical societies in cooperation with various aging groups.

ISMA's "Medicare: What You Should Know" brochure is in its third printing. More than 25,000 copies have been distributed. If you wish to order the brochure for your patients, contact the ISMA Public Relations Department. Cost: \$15 per hundred for the first one hundred copies; \$12.50 per hundred thereafter.

ISMA has heard complaints that physicians are still prescribing and dispensing Schedule II amphetamines for weight loss. A new rule went into effect last July 1 which prohibits this practice. The rule also restricts the prescribing and dispensing of Schedule III and IV stimulants for weight loss to three non-refillable 30 calendar-day supplies per year. Physicians must obtain a thorough patient history and perform a physical exam on patients before prescribing or dispensing Schedule III and IV stimulants for weight loss.

The new rule came about because of Indiana's high per capita consumption (6th nationally) of Schedule II stimulants.

If you need a list of Schedule II, III and IV amphetamines, contact the ISMA Public Relations Department.

MEDICAL MUSEUM NOTES

CHARLES A. BONSETT, M.D., Indianapolis



DR. JOHN S. BOBBS served as president of the Indiana State Medical Society (now the Association) in 1868. In his President's Address, he recalled that the organizational meeting took place June 6, 1849, in Wesley Chapel (a building that no longer exists but which at that time was located on the southwest corner of Meridian Street on the Circle in Indianapolis).

Dr. Bobbs recalled the original business of the 28 founding members:

"First—That they deem it expedient that the convention take proper steps to organize a State Medical Society in Indiana, and that a committee be appointed to report a Constitution and by-Laws for that purpose.

"Second—That a committee be appointed to consider the expediency of establishing a Medical Journal, to be the proper organ of the profession in this State.

"Third—That the convention recommend, in some suitable way, to members of the profession throughout the State, their organization into local or district societies, as may be most convenient to them.

"Fourth—That a Committee be appointed to draft such resolutions as may deserve the consideration of the convention.

"Fifth—That a committee be appointed to publish the proceedings of the convention in pamphlet form."

Nineteen years had passed since this organizational meeting and all seemed well with the society except with reference to Article Two of the Constitution that the convention adopted. Dr. Bobbs was particularly concerned with Paragraph Three of Section 1.

"Sect. 1—The Society shall constantly have in view. . .

"Third—The cultivation and adornment of Medical Science and literature, and the elevation of the standard of medical education. . ."

It seems that by 1868 opinion was divided as to whether proper attention



Wesley Chapel in Indianapolis was the site of the organizational meeting of the Indiana State Medical Society in 1849. The building no longer exists.

was being paid to these particular areas. Dr. Bobbs was of the opinion that the society should take the necessary steps to establish a medical journal and a medical school. The leader of the opposite point of view was Dr. Vierling Kersey of Richmond, the society's 1867 president, who in his own President's Address gave opposing opinions in vigorous terms:

"We are without a Medical Journal in this State—a fact we probably have no reason to regret. State lines in America, national boundaries, and broad oceans on earth are getting to signify little in the way of restraints in the diffusion of literature, and there is reason to believe that this little will become less and less for an indefinite period to come. When men go into market for intelligence as for other commodities, they should forego sectional prejudices, and get precisely what they need. . . . Bad medical literature should never be exposed to sale in any market. . . ." Dr. Kersey was not opposed to a medical school and a journal in the distant uncertain future,

but they should not be attempted until they could be done on a par with the best.

Dr. Kersey then went on to say that although a few Indiana physicians had something worthwhile to say, most did not. He urged his listeners: "Let us not . . . take measures likely to stimulate enterprise in this branch of industry by getting up a local Medical Journal that we do not really need." Referring to the annual volume of the *Transactions of the Indiana Medical Society*, he added "that it would be difficult, in any other market, to find a like amount of medical literature of so little intrinsic value."

Dr. Bobbs countered this argument in part as follows: "I fear it is a fact, that if our highest standard of medical literature were the only kind admissible, that not only would it fail to be found on the tables of the large majority of the practitioners, but that in many instances, its most elaborate productions would fail to instruct because not fully understood. . . . All cannot

CONTINUED ON PAGE 993



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WHAT'S NEW?

Plenum Publishing Corporation has released *When Doctors Get Sick*, edited by Dr. Harvey Mandell and Dr. Howard Spiro. It features the personal case histories of 50 doctors and medical students, all of whom experienced serious illnesses, because, as the editors explain, "You will seldom find us admitted to a hospital or even having outpatient work unless we are very sick." The 50 "authors" describe their experiences with other doctors, their trials and tribulations in coping with their own medical crisis, and the effect it had on their families and associates. Each doctor offers his or her opinion of the health-care system as perceived by the doctor as a patient. The 484-page book is available for \$25.

Video-SIG of Sunnyvale, Calif., reports that "more and more" physicians are "easing their jam-packed schedules by prescribing" Video-SIG mail order videotapes to their patients. According to spokeswoman Julia Hutton, these doctors are saving their own time by "prescribing" the tapes to inform their patients about relevant medical subjects. Video-SIG also wishes to buy videotapes that have been made by physicians. Interested physicians may contact Julia Hutton, Video-SIG, 1030 C. East Duane Ave., Sunnyvale, Calif. 94086—(408) 730-9291.

Plenum Publishing Corporation has a new book, *The AIDS Health Crisis: Psychological and Social Interventions*. It is a comprehensive reference that can be used by professional and lay counselors and care givers to help alleviate much of the stress and anxiety by those already suffering from AIDS. Authors Jeffrey A. Kelly and Janet S. St. Lawrence, both clinical psychologists, describe programs to reduce the anxiety of AIDS and ARC patients to include relaxation training, social support, cognitive intervention to improve coping skills, and the adoption of healthful behavior patterns. The cost is \$25 for the 222-page book.

News of what is new in the medical supply industry is composed of abstracts from news releases by book publishers and manufacturers of pharmaceuticals, clinical laboratory supplies, instruments and surgical appliances. Each item is published as news and does not necessarily constitute an endorsement of a product or recommendation for its use by INDIANA MEDICINE or by the Indiana State Medical Association.

The Institute of Medicine's Council on Health Care Technology has published a new resource featuring an extensive compilation of medical technology assessments. The 712-page *Medical Technology Assessment Directory* provides sources of assessment information on the growing array of medical procedures, devices and drugs. The directory is designed as a resource for physicians, pharmaceutical and medical device manufacturers, health benefits plan managers, hospitals, insurers, HMOs and medical technology assessors. The cost is \$250.

Mead Johnson has introduced two new varieties of Sustacal®, Strawberry and Vanilla with Fiber, that have been available since spring. Originated in 1971, Sustacal® was designed to meet the supplemental or total nutritional needs of patients who, for a variety of reasons, have difficulty in meeting their nutritional requirements through normal diet.

Plenum Publishing Corporation is releasing *Doctors' Marriages* by Michael F. Myers, M.D., a psychiatrist who specializes in marital therapy. Doctors, in general, are skillful in advising patients regarding stress situations and behavior upsets; yet, according to one study, 50% to 60% of medical marriages in the United States end in divorce. Dr. Myers discusses warning signs, methods of alleviating marital trouble and indications for need of professional counselling. The cost of the 254-page book is \$29.50.

RoCo Designs has developed a carrying kit for diabetic treatment supplies. The new case features two roomy pockets, three elastic loops and two adjustable straps for holding a blood glucose monitor, lancing device, and syringes and supplies for several days.

Plenum Publishing Corp. has released a new book, *House Officer: Becoming a Medical Specialist*, by Richard Cohen, M.D., a psychiatrist. The premise of this book is that the long hours of duty imposed on house officers result in physical and mental exhaustion and constitute an extremely unpleasant and unproductive method of teaching. Cost: \$24.50 for the 260-page book.

Ross Laboratories has announced a complete enteral formula for children. PediaSure® Liquid Nutrition for Children is designed for children 1 to 6 years old. Ready to use for tube or oral feeding, it contains 1,100 calories in 1.1 liters and provides 100% of the RDAs for this age group.

Allscrips Pharmaceuticals, Inc. is introducing an in-office prescription dispensing system. A new 10-page brochure provides details on the system, which includes an inventory of ready-to-dispense prescriptions, integrated inventory control and record keeping and a marketing package. Included as a brochure insert is a 32-page Allscrips Master Formulary, detailing more than 3,500 prepackaged prescriptions, including major brand name and high quality generic drugs.

Concord Laboratories is introducing Shur-Soft™, a full line of disposable anesthesia respiratory masks that feature inflation-adjustable cushions. The cushion is designed for an anatomically correct fit, providing a seal with minimal pressure and patient discomfort. The masks are made in four sizes, from pediatric to large adult. They meet the requirements in both general anesthesia and resuscitation procedures.

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FUTURE FILE

St. Vincent Hospital

Nov. 14: Dermatopathology Conference, St. Vincent Conference Center.

Nov. 18: Cocaine and Alcohol—Effects on Pregnancy and Baby, Ritz Charles Conference Center, Carmel.

Dec. 2-3: Sixth Annual Update in Cardiology, University Place Executive Conference Center, Indianapolis.

For more information, call Marilyn Soltermann, CME coordinator, St. Vincent Hospital, Indianapolis—(317) 871-2345.

Cruise Seminars

International Conferences has announced two cruises in 1989 featuring seminars on legal medicine and risk management.

The first seminar will be held Jan. 9-19 during a Caribbean cruise and is approved for 24 CME Category 1 credit hours (AMA) and 24 AAFP prescribed credits. The second, from March 9-20, will be held on a Trans Panama Canal cruise and is approved for 28 CME Category 1 credit hours (AMA) and 28 AAFP prescribed credits.

For information contact: International Conferences, Suite C, 189 Lodge Ave., Huntington Station, NY 11746—1-800-521-0076.

Clinical Cytopathology

The Johns Hopkins University School of Medicine is offering its 30th Annual Postgraduate Institute for Pathologists in Clinical Cytopathology.

The Home Study Course A must be completed from February through April 1989. Personal reading and microscopic study in the doctor's own laboratory prepares him/her for the In-Residence Course B (planned for April 24-May 5). Course B is an extremely concentrated lecture series with intensive laboratory studies and clinical experiences at the Johns Hopkins Medical Institutions in Baltimore.

For details contact John K. Frost, M.D., or Ms. B. Clendaniel, 604 Pathology Building, The Johns Hopkins Hospital, Baltimore, Md. 21205—(301) 955-3522.

The *Journal of the American Medical Association* publishes a list of CME courses for the United States twice yearly. The January listing features courses offered from March through August; the July listing features courses offered from September through February.

Pediatrics

Indiana University School of Medicine's Department of Pediatrics began its Annual Visiting Professor and Practicum Workshop Courses Nov. 9. Workshops will be held at Riley Hospital for Children on the second Wednesday of each month from 9 a.m. - noon and the Visiting Professor Series will be on the fourth Wednesday of each month from 9:15 - 10:15 a.m.

Registration is required. The course is designated for CME credit. For further information contact Richard L. Schreiner, M.D., Department of Pediatrics, Attn. M.A. Underwood, Riley Hospital for Children, 702 Barnhill Dr., Indianapolis, Ind. 46223—(317) 274-4034 or 274-7810.

Methodist Hospital CME

Nov. 16: 7th Annual Symposium on Ethical and Moral Issues: Rationing Dilemmas—The 21st Century, Hyatt Regency Hotel, Indianapolis; co-sponsor, St. Vincent Hospital.

Dec. 3: Fracture Management, Methodist Hospital.

Dec. 7: 7th Annual Toxicology Seminar: Substances of Abuse, Holiday Inn, Airport, Indianapolis.

Dec. 10: Advanced Ultrasound Course in Vaginal Imaging, Methodist Hospital, Auditorium.

Feb. 22: Worker's Compensation Program for Physicians, Methodist Hospital.

Mar. 10-12: 5th Annual Symposium on SWL: Urinary and Biliary, Westin Hotel, Indianapolis.

For information, call Dixie Estridge, CME coordinator, (317) 929-3733.

Indiana University CME

Nov. 18-19: Fall Meeting, Indiana Chapter, American College of Surgeons, Embassy Suites North, Indianapolis.

Dec. 2: Geriatric Seminar, Vigo County Public Library, Terre Haute.

Dec. 2-3: Big Four Classic—Rhino-plasty '88, University Place Executive Conference Center and Hotel, Indianapolis.

Jan. 26-28: Surgical Laser Use: Basics and Specifics, I.U. School of Medicine, Indianapolis.

Feb. 10: Update in Infectious Diseases, University Place Executive Conference Center and Hotel, Indianapolis.

Feb. 17-18: Winter Meeting, Indiana Chapter, American College of Surgeons, Columbia Club, Indianapolis.

For further information on these and other CME programs, contact Melody Dian, assistant director, Continuing Medical Education, (317) 274-8353.

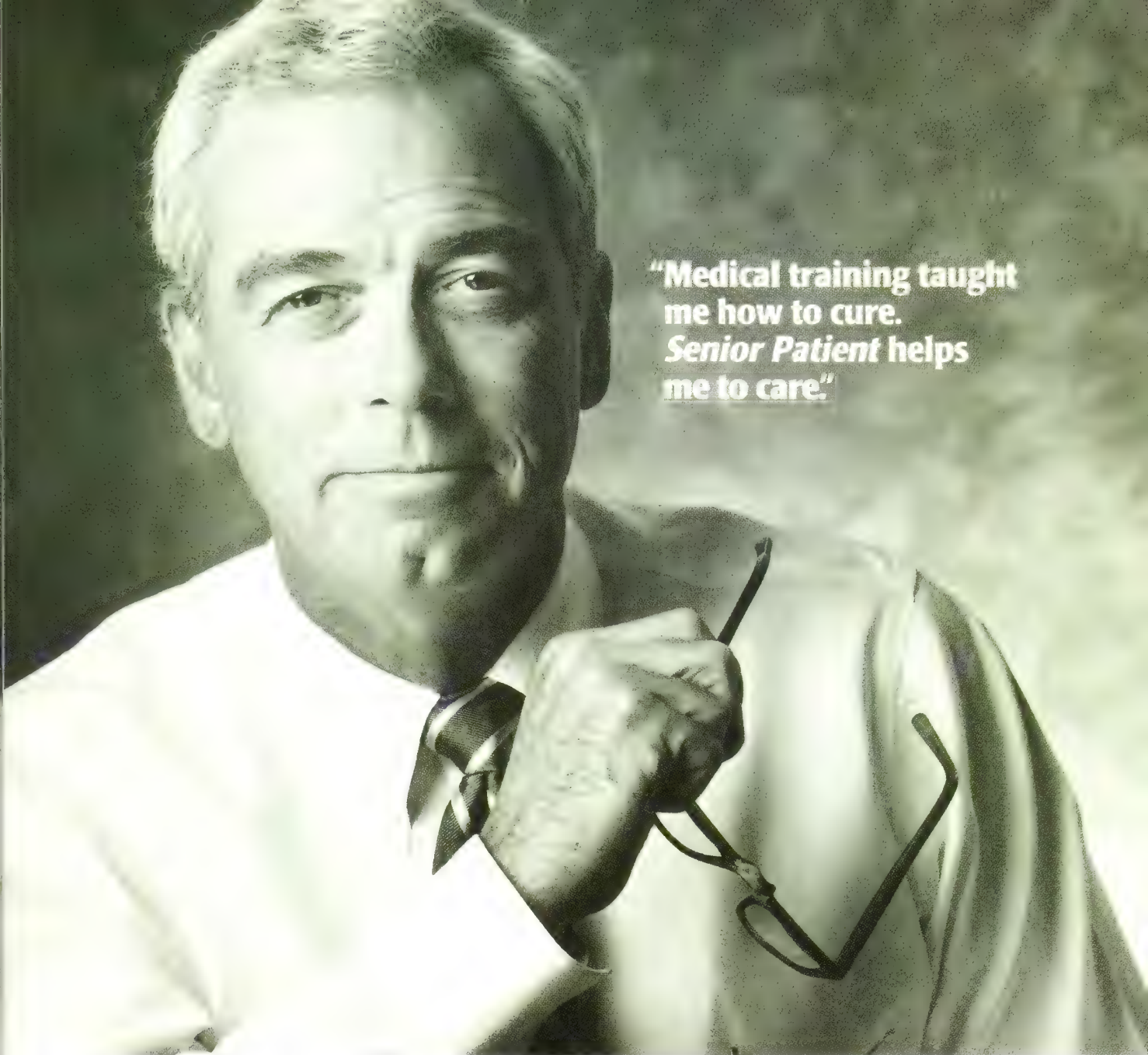
University of Kentucky

The University of Kentucky College of Medicine will conduct the following CME courses in December and February: "Advanced Trauma Life Support," Dec. 13-15; "Vascular Surgery Update," Dec. 16-17; and "Twentieth Family Medicine Review—Session I," Feb. 19-24, 1989. All will be held in Lexington, Ky.

For information contact Joy Greene, CME, 132 College of Medicine Office Building, University of Kentucky, Lexington, Ky. 40536-0086; (606) 233-5161.

Sleep Disorders

The University of Wisconsin-Madison School of Medicine is presenting a CME program on "Current Concepts in Sleep Disorders Medicine" Nov. 18-19. It is approved for 11 credit hours AMA Category 1, AOA Category 2-D and AAFP elective credits. For information contact Cathy Means, CME, 2715 Marshall Court, Madison, Wis., 53705—(608) 263-6637.



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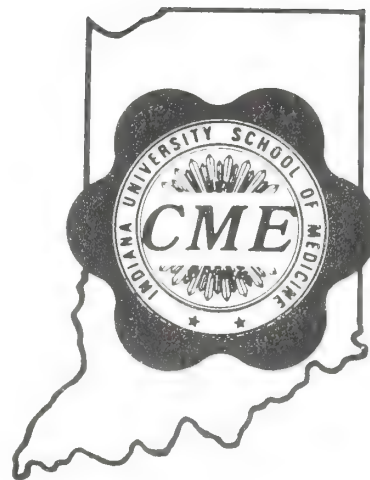
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To obtain Category 1 credit for this month's article, complete the quiz on page 976.



Evaluation of the Infertile Couple

MARGUERITE K. SHEPARD, M.D.
Indianapolis

INFERTILITY AFFECTS between 15 and 20% of couples attempting pregnancy. A strict definition of infertility is one year of regular unprotected intercourse without conception. Although the percentage of infertile couples in the population has remained unchanged over the last 20 years, the number who have sought evaluation has increased markedly.¹

Emphasis should be placed on evaluation of the couple. Except in defined instances where a sterilization procedure has been performed in the past on one of the two partners, both of whom were of proven fertility, it is risky to assume that either one or the other partner is solely responsible for the infertility. It is more common for several small factors to affect each one and add up to a problem for the couple as a unit—a problem that might not be manifested as infertility if each were paired with a more fertile partner. Thus, it is important at the outset to evaluate both members of the couple

simultaneously. Although an interview of the couple as a unit is probably the most desirable approach, it seldom takes place in the initial stages of an infertility evaluation. Typically, the wife sees her gynecologist or family physician, may have an evaluation, and may even try medication before a semen sample for analysis is obtained from her husband.

As is the case with other disorders, the initial history and physical examination are the cornerstones of an infertility evaluation. The physician must establish the duration of infertility and the frequency of coitus, and ascertain that intravaginal ejaculation is taking place. Some couples have been having unprotected coitus for a longer period than they have been desirous of pregnancy, but will give the latter time interval as the length of time they have been infertile. Coital frequency of less than twice a week can be a cause of delay in conception although not of absolute infertility.²

Correspondence and reprints: Marguerite K. Shepard, M.D., Professor and Section Chief, Division of Reproductive Endocrinology, Department of Obstetrics and Gynecology, Indiana University Hospital, 926 W. Michigan St., N-262, Indianapolis, Ind. 46223.

Finally, both premature ejaculation and ejaculatory incompetence can cause infertility.

History

Pertinent points in the history will differ slightly for each member of the couple. For the male, the following are examples of points of importance: mumps after puberty; exposure to ionizing radiation, environmental toxins or chemotherapeutic agents; any sexually transmitted disease; scrotal injury; any occupation that will lead to chronic elevation of scrotal temperature; and chronic marijuana smoking. For the female, points of importance include: menstrual pattern; previous contraceptive use; history of intra-abdominal and pelvic infection; severe dysmenorrhea; galactorrhea; and marked acute weight loss or gain.

Physical Examination

A general physical examination, not just a genital examination, should be performed in each case. For example, body fat and muscle mass distribution in the male can reflect gonadal function. In the female, previously undetected galactorrhea with concomitant hyperprolactinemia may cause luteal phase dysfunction without menstrual abnormalities.³

In the male, the genital examination should emphasize testicular size and consistency, with careful examination for the presence or absence of a varicocele. In the female, the appearance of the cervix, the size, shape, consistency, position and mobility of the uterus, and the size and mobility of the adnexa are of greatest importance. If the patient is at mid-cycle, the quality of the cervical mucus should be noted.

A tentative diagnosis should be formulated based on the history and physical findings. Because of the wide variety of tests available and the expense of testing, it is not practical to put the infertile couple through a battery of standardized tests. Rather, it is more appropriate to select studies that should confirm or support the

original diagnosis. For this reason, it is useful to view infertility as a symptom of an underlying condition rather than a diagnosis in itself.

Evaluation

Evaluation of the male begins with the semen analysis. If the semen analysis and a postcoital test (to be discussed later) are both normal, it is unlikely that there is a significant male factor contributing to the infertile state. However, since semen quality fluctuates, at least two normal semen samples should be obtained at intervals of at least a month before a male factor can be eliminated. The minimum sperm concentration for a presumed fertile ejaculate has decreased markedly over the last 30 to 40 years from a concentration of 20 million sperm per milliliter, or 100 million per total ejaculate, to the currently accepted level of 10 million per milliliter or 25 million sperm per total ejaculate.⁴ However, the minimum accepted levels for motility and morphology have remained unchanged at 60% or greater normal forms and 50-70% actively motile sperm. Values less than this suggest a male factor problem, and a repeat semen analysis should be obtained. Also, an appointment should be made for urologic evaluation if one has not been carried out already.

If the semen analysis is abnormal, the type of further testing depends on history and physical examination as well as the semen findings. If there is absolute azoospermia, gonadotropins and testosterone may be obtained to differentiate between obstructive disease or pituitary versus gonadal failure. If there is oligospermia and a finding of decreased libido or erectile impotence, a prolactin determination might be helpful. With oligospermia in the absence of a varicocele, testicular biopsy also may be useful. Antisperm antibody testing or a sperm penetration assay also may be indicated.^{5,6}

If the semen analysis is normal and the postcoital test is repeatedly abnormal, hostile cervical mucus is sug-

gested. If the mucus is of poor quality with a white-cell infiltrate, cultures for vaginal pathogens such as *Gardnerella vaginalis* and *Chlamydia trachomatis* should be performed. If the mucus is of good quality, an *in vitro* slide penetration test will establish if there is a coital problem or truly hostile cervical mucus. If there is poor mucus penetration by slide, anti-sperm antibody testing of the wife's serum and cervical mucus should be performed.⁵

Evaluation of the female will be governed by ovulatory status. If the patient appears to be ovulatory by history, initial testing will be directed toward tubal patency, preovulatory mucus quality, and ovarian function in the luteal phase. On the other hand, if the patient is anovulatory, studies will be chosen to determine the cause of anovulation.

In the ovulatory patient, preliminary studies can be carried on in the course of one to one-and-a-half menstrual cycles, depending on where the patient is in her cycle at the time of her first visit. It is preferable to defer tubal patency studies, which are invasive and painful, until the less invasive studies have been completed. If the patient is in the follicular phase at the time of the first visit, preovulatory postcoital mucus evaluation can be the first study scheduled.

The test should be scheduled for the presumed day of ovulation or one to two days earlier if the examination cannot be scheduled for the presumed ovulation day. In patients whose cycle length varies, the test should be scheduled for the earliest possible ovulation day based on a luteal phase length of 14 days (e.g., cycle length variation 26-31 days, predicted ovulation between days 12 and 17). If the mucus is poor, suggesting that ovulation will occur later, the patient can be rescheduled to return for a repeat evaluation in two to three days.

The preparation for and performance of the test are as follows: The couple should have intercourse either late the night before or early on the

morning of the day scheduled for the test. The time selected should be left up to the couple and should be determined by when they think that satisfactory coitus is most likely to occur. Postcoital bathing is permitted, but douching should be avoided.

Mucus can be obtained with an 18-gauge standard length plastic catheter (2 inches) and a 5cc syringe. The appearance of the cervix should be noted, including the presence or absence of ectopy and/or inflammation, the shape of the cervical os, and the amount and appearance of the mucus. The catheter attached to the syringe should be advanced as far as possible into the canal up to, but not through, the internal cervical os. The syringe then should be withdrawn slowly so that mucus is aspirated from all levels of the endocervical canal. The mucus then is expelled onto two glass slides. As the mucus being expelled makes contact with the glass slide, the syringe and catheter should be pulled slowly from the slide. This action causes the mucus to be drawn out into a thread—spinnbarkeit. The length of this thread should be recorded. A thin layer of mucus should be spread on the slide to check for ferning, the arborization pattern that appears when estrogen-dominant mucus dries. All of the remaining mucus should be expelled onto the second slide and covered with an appropriate size cover slip. This slide is then scanned under low power to locate the sperm. Once sperm have been identified, an estimate of sperm density is made by counting the number of motile and non-motile sperm per high power field.

Three levels of information can be obtained from a postcoital test. If sperm are present, there is confirmation that the couple is practicing proper coital technique. If actively motile sperm are present, there is confirmation that the patient's mucus is favorable for the transport of her partner's sperm. If more than 15 actively motile sperm are found per high power field, it can be inferred that the male partner

has a normal ejaculate, eliminating the need for a semen analysis in many circumstances.⁷

Luteal function can be assessed by obtaining either a serum progesterone or an endometrial biopsy. The progesterone should be obtained approximately one week after ovulation. A value of 15 ng/mL or 1500 ng/dL is probably indicative of normal luteal function.⁸ A value of less than 5 ng/mL

It Is Useful To View Infertility as a Symptom of an Underlying Condition Rather Than a Diagnosis in Itself

or 500 ng/dL suggests that ovulation did not take place.⁹ The appropriateness of the timing should be confirmed by using the first day of the patient's next menstrual period as a reference point. This is a good routine screening test.

When a tissue receptor problem¹⁰ is suggested, or if no other explanation for infertility can be found, an endometrial biopsy should be performed. This test is best performed two to three days before the expected onset of menses.¹¹ The test is performed by applying syringe-generated suction to a hollow biopsy curet. After appropriate local anesthesia has been secured, the curet is passed through the internal os to the top of the uterine cavity. The suction is generated, and a single scrape is made along the anterior fundal surface of the uterus. If a small plastic self-contained suction curet (Pipelle, Unimar) is used, several small scraping motions are made along a single track. Four quadrant biopsies are not performed in order to diminish the chance of interrupting a pregnancy. For the biopsy to be considered normal, there should be less than a two-

day dating discrepancy between the expected and observed histologic findings.¹²

Although recording of the basal body temperature is commonly used to assess luteal function, it is at best qualitative and not quantitative. Temperature elevations can be caused by progesterone levels of as little as 250 ng/dL,⁹ a level that does not even reflect ovulation. In addition, if one is to have an objective measure of assessing therapeutic response, a quantitative method such as serum progesterone or endometrial biopsy should be used for obtaining baseline studies. If not already done, a semen analysis from the male partner can be obtained during the luteal phase if the postcoital test does not confirm a normal ejaculate.

If the initial studies are normal, a tubal patency study can be ordered for the next cycle. If any of the initial three studies are abnormal, and nothing in the history or physical examination suggests tubal disease, tubal patency evaluation can be deferred until the abnormal studies have been completely evaluated.

The most commonly performed tubal patency studies are the hysterosalpingogram (HSG) and the diagnostic laparoscopy. The HSG is the study of choice in the young patient (under 30) with no history or physical findings suggesting tubal disease. The procedure should be performed in the post-menstrual, but preovulatory, phase of the cycle. There is some debate about the choice of water-soluble versus oil-soluble contrast medium.¹³ Water-soluble medium is used at Indiana University. The contrast material is injected into the uterus either through a device that cannulates the endocervical canal or one that features a suction cup over the cervix. Fluoroscopy combined with still pictures may be performed, or still pictures alone may be used. Visualization should be initiated immediately after the injection so that the filling pattern of the uterus and tubes can be observ-

ed. A post-removal film may be taken to look for dye in the cul-de-sac.

In general, diagnostic endoscopy-laparoscopy¹⁴ and/or hysteroscopy should be carried out as part of the initial evaluation in all patients, regardless of ovulatory status, whose history or physical examination suggests pelvic or intrauterine abnormalities. In the absence of positive findings, endoscopy should be carried out if the couple has failed to conceive after three cycles following the preliminary evaluation in ovulatory patients or three cycles after the establishment of ovulation in anovulatory patients.¹⁵ The choice of three cycles reflects the time it takes the average fertile couple to achieve a conception. Modifications in this schedule can be made depending on the age of the couple involved and the adequacy of coital exposure during the post-evaluation or treatment period. The procedure is generally timed for the follicular phase of the cycle and includes the transcervical injection of a blue contrast dye to check tubal patency.

In the anovulatory patient, post-coital mucus testing is appropriate to establish the baseline status of the cervical mucus before the use of ovulation induction agents. Studies for evaluation of luteal function are generally a waste of the patient's time and money. Rather, appropriate tests directed at determining the cause of anovulation should be obtained. For instance, if the patient is clinically hypothyroid, thyroid function studies including TSH

should be obtained. If she has galactorrhea, a prolactin level should be determined, and if she appears to be hypogonadal, gonadotropins should be ordered. Tubal patency studies need not be obtained before starting treatment with oral ovulation induction agents if there is no history of tubal disease. A semen analysis should be obtained on the partner before starting treatment. If ovulation has been established and the patient fails to conceive after at least three cycles, tubal patency testing should be carried out regardless of the patient's history.

The foregoing is not intended to be an exhaustive discussion of the evaluation of an infertile couple, but only a guideline for the direction a preliminary evaluation should take. Individualization of both evaluation and treatment is often necessary.

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moderate to severe renal impairment are usually not required, careful clinical observation and laboratory studies should be made.

- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclo[®] penetrates mother's milk. Exercise caution in prescribing for these patients.

Adverse Reactions: (percentage of patients)

Therapy-related adverse reactions are uncommon. Those reported include:

- Gastrointestinal (mostly diarrhea): 2.5%.
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- Hypersensitivity reactions (including morbilliform eruptions, pruritus, urticaria, and serum-sickness-like reactions that have included erythema multiforme [rarely, Stevens-Johnson syndrome] and toxic epidermal necrolysis or the above skin manifestations accompanied by arthritis/arthralgia, and frequently, fever): 1.5%, usually subside within a few days after cessation of therapy. Serum-sickness-like reactions have been reported more frequently in children than in adults and have usually occurred during or following a second course of therapy with Ceclo[®]. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

- Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.
- As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.
- Rarely, reversible hyperactivity, nervousness, insomnia, confusion, hypertonia, dizziness, and somnolence have been reported.
- Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1%, and, rarely, thrombocytopenia.
- Abnormalities in laboratory results of uncertain etiology:**
 - Slight elevations in hepatic enzymes.
 - Transient fluctuations in leukocyte count (especially in infants and children).
 - Abnormal urinalysis, elevations in BUN or serum creatinine.
 - Positive direct Coombs' test.
 - False-positive tests for urinary glucose with Benedict's or Fehling's solution and Clinitest[®] tablets but not with Tes-Tape[®] (glucose enzymatic test strip, Lilly).

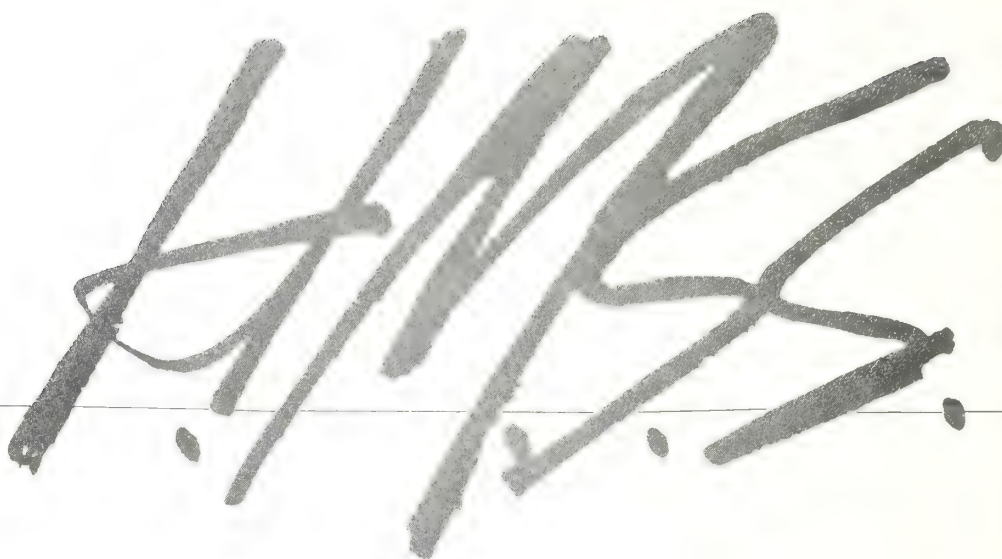
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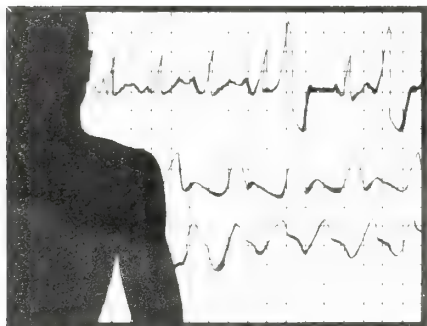


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Ophthalmologic Considerations in Head and Facial Trauma



ADULT CRITICAL CARE MEDICINE

Methodist
Hospital OF INDIANAPOLIS

RONALD T. MARTIN, M.D.
Indianapolis

INJURIES TO THE eye and ocular adnexae are frequently encountered in the setting of head and facial trauma.¹ Priorities at the time of initial evaluation, in order of importance, include airway maintenance, hemostasis, neurologic and cervical spine evaluation and assessment of the eye.

An adequate examination of the eye can be performed readily at the bedside with little more than a direct ophthalmoscope. Visual acuity of each eye should be measured in every patient alert and cooperative enough to permit testing. Any reading material available, such as newspaper or magazine print, serves this purpose well. The pinhole device acts as a universal lens, correcting both near- and far-sightedness as well as astigmatism, and is useful if the patient's spectacles are not available. Otherwise, the patient's ability to count fingers at a designated distance should be tested, e.g., "counts fingers at five feet." At a very minimum, the patient's ability or inability to perceive light in the acute setting should be documented for it may have important implications in reference to optic nerve injury or potential salvage of the globe at a later time.

Pupillary function should be evaluated with a description of pupil size, shape and reactivity to light (both directly and consensually). A difference in size between the pupils might be due to third cranial nerve damage, direct injury to the iris, or interruption of sympathetic pathways. Parasympa-

thetic fibers are carried in the third cranial nerve and cause miosis; disruption of these fibers therefore will produce dilatation of the pupil. Local injury to the iris can produce either pupillary constriction or dilation and frequently causes irregularity of the pupil shape. In rare cases, the sympathetic innervation to the pupil may be damaged, producing a relatively miotic pupil that fails to dilate when the lights are dimmed; other signs of a Horner's syndrome, such as a mild ptosis on the affected side, also might be found.

A pupil that is nonreactive to direct light may result from local injury to the sphincter muscle of the iris, third cranial nerve damage (loss of parasympathetic constricting function), or loss of vision in the eye. The consensual light response will help separate the latter condition from the first two. An eye with a relatively better response to consensual light stimulation than to direct stimulation has what is referred to as a Marcus Gunn pupil sign ("MG") or afferent pupillary defect ("APD"), which are synonymous terms. This phenomenon is one of the most valuable physical signs in ophthalmology and is best detected with the swinging flashlight test (*Figure 1*). A bright light is directed into one eye, and the briskness and degree of pupillary constriction are observed in that same eye. The light then is shifted quickly into the opposite eye and the pupil size assessed. If the pupil stays the same size, it implies that light conduction is equivalent in the two eyes. If the pupil enlarges while the light is being directed into that eye (a paradoxical response to light), it implies that there is a lesion of the afferent conduction pathway of that eye involving the retina or the optic nerve to the level

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Acknowledgment: Special thanks to Brenda Kester and the Methodist Hospital Medical Media Department for providing the illustrations.

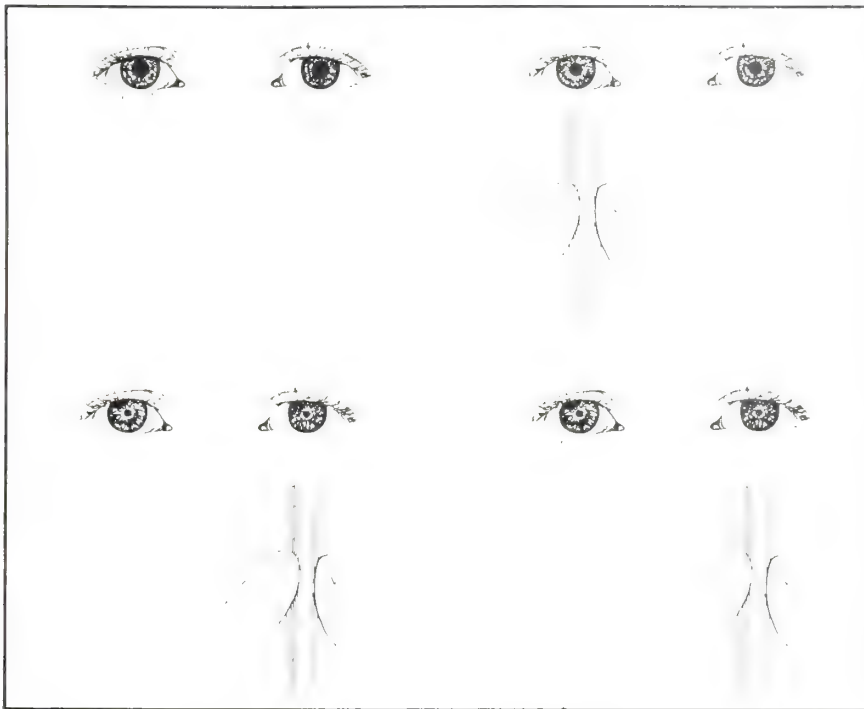


FIGURE 1: The afferent pupillary defect. (Illustrated counter-clockwise from top left.) Relative pupil size is assessed in dim illumination. A bright light is directed into one eye and pupil reaction noted. (In this diagram the patient's left eye is normal.) Light is quickly shifted into opposite eye. (Patient's right eye, with afferent defect, dilates.) Left pupil once again constricts with direct light stimulation as does the right pupil being more responsive to consensual than to direct light stimulation. The patient's right pupil is said then to have an afferent pupillary defect or to demonstrate a Marcus Gunn sign. Notice that both pupils remain equal in size regardless of which eye is being stimulated due to equal efferent output to both sides.

of the optic chiasm. If the pupil becomes smaller, it suggests that there may be an afferent defect of the opposite eye and the light should be swung back to that eye looking for pupillary dilation. Note that this test can be performed even if either eye has a totally nonreactive pupil from some other etiology since the response of the reactive pupil during execution of the swinging light test gives information about the relative conductive status of both sides. Note also that optic nerve lesions do not affect pupil size but only affect pupil reactivity.

The integrity of the eyeball should be cautiously evaluated in any mid-facial trauma patient. Sometimes a rupture of the globe is obvious with a visible laceration through cornea or sclera and extrusion of iris or vitreous from the wound. At other times the rupture is more occult. Swelling of the conjunctiva (chemosis) or subconjunctival hemorrhage may suggest an underlying scleral break. Anterior chamber depth should be assessed with tangential light directed from the lateral

aspect of the globe and the two eyes compared (*Figures 2 and 3*). The chamber is frequently more shallow in the presence of an anterior scleral rupture or may be excessively deep in the event of a large posterior rupture with significant loss of ocular contents. The intraocular pressure can be estimated and compared by very gentle palpation of each globe with the tips of the examiner's two index fingers through closed eyelids. A ruptured eye usually will be softer. Slit lamp and dilated fundus examination may be necessary in questionable cases. However, pharmacologic dilation of the pupils should be postponed if there is head injury with a risk of brainstem herniation until this danger has passed and frequent assessment of pupillary reactions is no longer necessary.

If a ruptured globe is suspected, the eye should be covered with a metal shield and no further manipulation undertaken until the patient can be brought to surgery. Any pressure applied to the eye may exacerbate extrusion of intraocular contents. Intra-

venous antibiotics should be started and the globe repaired in the next few hours.

Blunt trauma to the head and globe also may result in a number of other ocular injuries.² A dislocated lens can become entrapped within the pupil or anterior chamber causing an attack of acute glaucoma and the potential for blindness within hours if left untreated. As ocular pressure rises, the eye becomes extremely painful, and the patient may experience nausea and vomiting. The conjunctiva becomes injected, and the cornea becomes hazy. The iris may be bowed forward, touching the back of the cornea.

Hyphema (blood in the anterior chamber), a frequent finding in the injured eye, also can cause dangerous elevations in intraocular pressure, especially in patients with sickle cell abnormalities.³ Manipulations of the eye should be minimized and the intraocular pressure followed closely as the blood gradually clears. Bed rest is advisable. The goal is to avoid rebleeding, the risk of which is highest from three

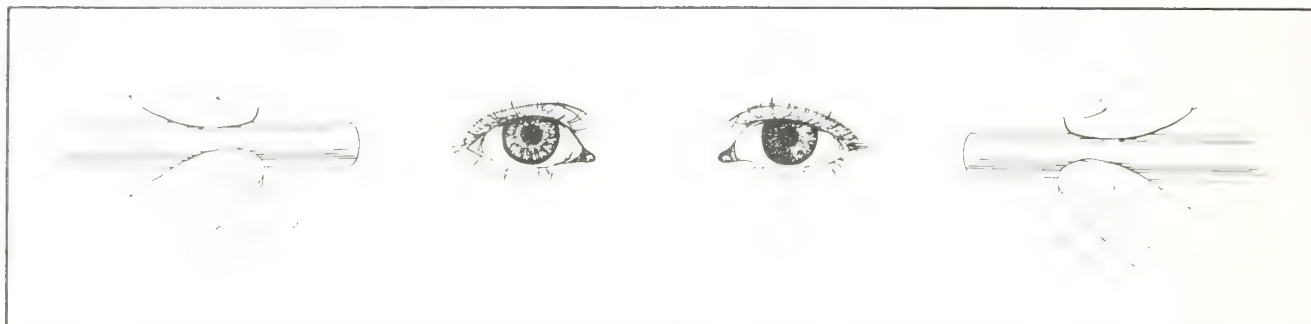


FIGURE 2: Tangential light from lateral side of globes showing shallow anterior chamber in patient's left eye as indicated by a shadow over the medial half of the chamber.

to five days after the initial hemorrhage. A second hemorrhage is often of greater severity and is frequently associated with greater pressure elevations. Aminocaproic acid has been shown to decrease the incidence of rebleeding and should be considered in selected cases.^{4,5}

Corneal abrasions frequently can be diagnosed with only the use of a hand-held light source. Topical fluorescein applied to the tear film will help reveal abrasions by staining areas of denuded corneal epithelium. The areas of abnormal staining are best seen with the blue light emitted through a cobalt blue filter but also can be seen reasonably well with ordinary white light. Treatment consists of antibiotic eye drops or eye ointment such as sulfacetamide or bacitracin.

Other injuries such as vitreous hemorrhage or choroidal rupture usually do not require treatment in the acute setting. Long term follow-up, however, will be necessary.

Eyelid lacerations should be closed within the first 24 hours after injury. If the eyelid margin, the levator complex or the nasolacrimal outflow apparatus has been damaged, specialized techniques will be required for optimal repair. However, it is possible, though often with less favorable results, to effect repair or reconstruction of such injuries at a later date if the patient is too unstable to undergo early surgery.

Fractures of the orbital bones are also commonly found in the multiple

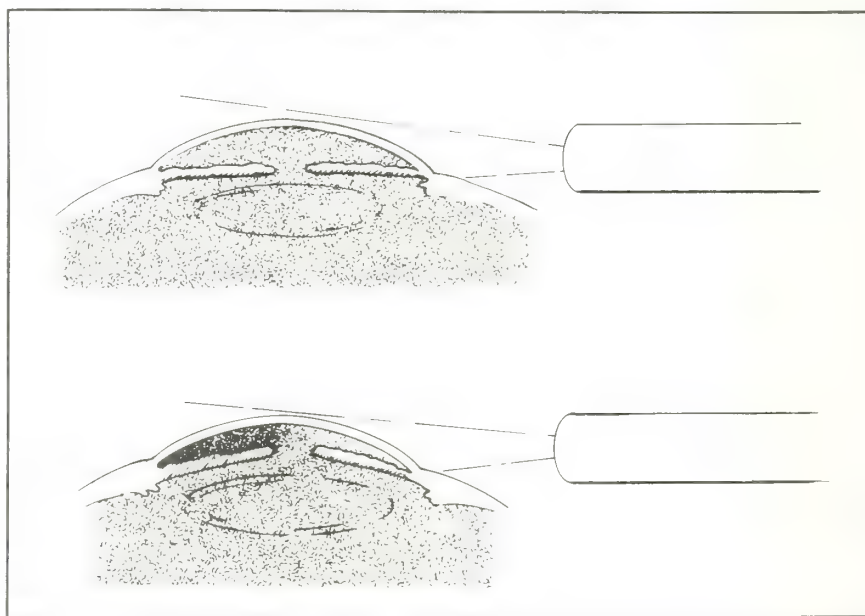


FIGURE 3: Cross-sectional view of Figure 2. Normal side with evenly distributed illumination of anterior surface of iris (top illustration). Shallow chamber in which lateral iris leaflet blocks light from illuminating medial half of iris (bottom illustration).

trauma patient. Orbital fractures most commonly involve the orbital floor and medial wall and may be associated with displacement of the globe and restricted ocular motility. Fractures of the orbital roof may lead to pulsations of the globe and exophthalmos due to transmitted cerebrospinal fluid pulsations. If the roof fracture extends medially to the cribriform plate, CSF rhinorrhea also may be found.⁶ Definitive repair of most orbital fractures

usually is delayed for seven to 14 days to allow resolution of soft tissue edema and congestion.

Displaced bone fragments may be driven deep within the orbit causing a contusion or transection of the optic nerve.^{7,8} Contusion injuries are associated with a wide range of visual deficits having varied and unpredictable prognoses. A transection results in total loss of vision in the eye and is beyond repair. Both types of injury

also will produce an afferent pupillary defect as previously described.

Perhaps the most urgent of all traumatic ophthalmologic injuries is the compressive orbital hemorrhage. This can result from orbital fractures or from penetrating orbital injuries such as stab wounds or bullet wounds. The expanding hemorrhage pushes the globe forward until the eyelids prevent any further displacement of the globe. At this point the intraorbital and intraocular pressure rises dramatically, interfering with ocular circulation and the function of the optic nerve and ocular motor nerves. The result is a proptotic, tense eyeball with rapidly declining vision, an afferent pupillary defect, and impairment of ocular motility in all directions. Typically, eyelid ecchymosis and extensive subconjunctival hemorrhage occur. A direct ophthalmoscope can be used to examine the retinal vessels at the optic disc. Venous pulsations are absent. Note, however, that 20% of normal patients lack spontaneous venous pulsations. If the intraorbital pressure rises to a level between systolic and diastolic blood pressure, the central retinal artery can be seen to fill and collapse with each cardiac cycle, at which point ischemic infarction of the retina with severe and permanent visual loss is imminent.

Emergent treatment consists of lateral canthotomy with inferior and superior cantholysis (*Figure 4*). This is done easily at the bedside and will release the tethering effect of the eyelids on the globe, thus rapidly reducing orbital and ocular pressure. This should be considered only a temporizing measure, since medical therapy with suppressants of aqueous production by the eye, mannitol, and steroids, or even surgical intervention with removal of the lateral orbital wall will be necessary. Prompt treatment frequently results in excellent preservation of vision.

Ophthalmologic manifestations of head injury, without evidence of ocular or orbital trauma, also may be en-

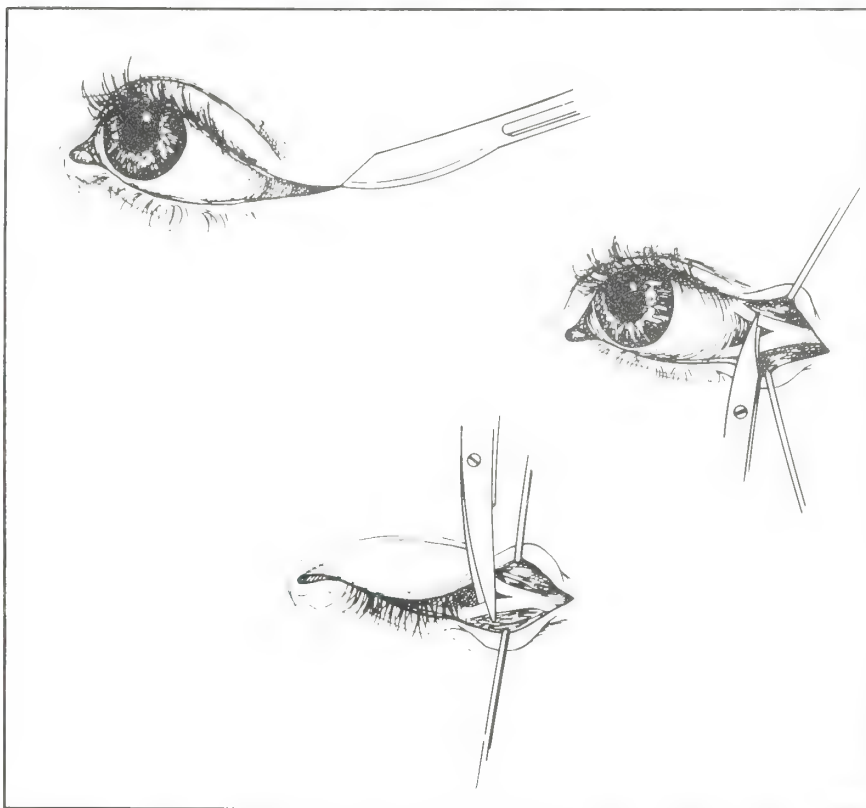


FIGURE 4: Lateral canthotomy with superior and inferior cantholysis. (Top to bottom.) Ten millimeter incision extending laterally from the lateral canthus is made with No. 15 Bard-Parker blade. The skin is retracted while the superior limb of the lateral canthal tendon is severed with straight iris scissors. The lateral one-third of the lid margin should be firmly grasped with forceps as the tendon is being cut. The inferior limb of the lateral canthal tendon is severed. The lateral attachment of the eyelid will be distinctly loose and floppy when the tendon has been adequately transected.

countered. The fourth cranial nerve is damaged easily by a concussive blow to the head due to its long intracranial course. The intracranial portion of the third cranial nerve also is frequently injured by head trauma, though usually the blow must be sufficient to cause loss of consciousness or fracture of the skull. Sixth cranial nerve function may be compromised by fractures along the petrous ridge, in which case seventh and eighth nerve dysfunction also may be found. In addition, sixth nerve paresis may result from increased intracranial pressure.

The function of any of the three ocular motor nerves as well as the first division of the trigeminal nerve may be compromised when a carotid-cavernous fistula results from head trauma.⁹ The patient and examiner both may hear an ocular bruit. The globe frequently becomes proptotic and may pulsate. Intraocular pressure rises. The conjunctival and episcleral vessels become engorged. Neurosurgical or neuroradiologic intervention frequently is necessary for high flow-rate fistulas.

Occasionally blunt trauma to the

head causes indirect optic nerve injury.¹⁰ The blow is typically to the fronto-temporal area of the forehead and may be surprisingly trivial. The patient usually notices diminished visual acuity and visual field defects immediately after the injury. An afferent pupillary defect will be present. The nerve usually is injured at the site where the mobile intraorbital portion of the nerve enters the optic canal where it becomes more fixed.¹¹ Systemic steroids may be helpful in this setting, and some degree of recovery is the rule but by no means is guaranteed.

The optic nerve also may be compressed within the optic canal by bony fragments, hematoma or edema fluid. Systemic steroids are administered and consideration given to neurosurgical decompression of the optic canal.^{12,13} The best visual outcomes after canal decompression are achieved in those patients with good vision immediately after the injury but who later show a gradual diminution in visual function due to compression of the nerve. Results are typically poor in patients with severe and persistent

visual loss dating from the exact moment of the trauma.

In summary, a wide variety of ophthalmologic injuries may be found in association with head and facial trauma. Some require immediate intervention for preservation of vision. A quick examination of the eye during the initial assessment of the patient is relatively easy to perform and may be valuable in the delivery of appropriate ophthalmologic care.

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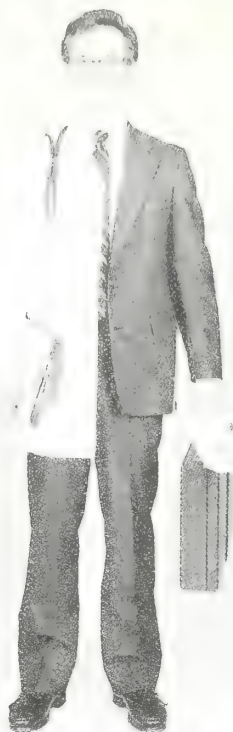
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BRIEF SUMMARY

CONTRAINDICATIONS

There are no known contraindications to the use of sucralfate

PRECAUTIONS

Duodenal ulcer is a chronic, recurrent disease. While short-term treatment with sucralfate can result in complete healing of the ulcer, a successful course of treatment with sucralfate should not be expected to alter the post-healing frequency or severity of duodenal ulceration.

Drug Interactions: Animal studies have shown that simultaneous administration of CARAFATE (sucralfate) with tetracycline, phenytoin, digoxin, or cimetidine will result in a statistically significant reduction in the bioavailability of these agents. The bioavailability of these agents may be restored simply by separating the administration of these agents from that of CARAFATE by two hours. This interaction appears to be nonsystemic in origin, presumably resulting from these agents being bound by CARAFATE in the gastrointestinal tract. The clinical significance of these animal studies is yet to be defined. However, because of the potential of CARAFATE to alter the absorption of some drugs from the gastrointestinal tract, the separate administration of CARAFATE from that of other agents should be considered when alterations in bioavailability are felt to be critical for concomitantly administered drugs.

Carcinogenesis, Mutagenesis, Impairment of Fertility: Chronic oral toxicity studies of 24 months' duration were conducted in mice and rats at doses up to 1 gm/kg (12 times the human dose). There was no evidence of drug-related tumorigenicity. A reproduction study in rats at doses up to 38 times the human dose did not reveal any indication of fertility impairment. Mutagenicity studies were not conducted.

Pregnancy: Teratogenic effects. Pregnancy Category B. Teratogenicity studies have been performed in mice, rats, and rabbits at doses up to 50 times the human dose and have revealed no evidence of harm to the fetus due to sucralfate. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when sucralfate is administered to a nursing woman.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Adverse reactions to sucralfate in clinical trials were minor and only rarely led to discontinuation of the drug. In studies involving over 2,500 patients treated with sucralfate, adverse effects were reported in 121 (4.7%).

Constipation was the most frequent complaint (2.2%). Other adverse effects, reported in no more than one of every 350 patients, were diarrhea, nausea, gastric discomfort, indigestion, dry mouth, rash, pruritus, back pain, dizziness, sleepiness, and vertigo.

OVERDOSAGE

There is no experience in humans with overdosage. Acute oral toxicity studies in animals, however, using doses up to 12 gm/kg body weight, could not find a lethal dose. Risks associated with overdosage should, therefore, be minimal.

DOSAGE AND ADMINISTRATION

The recommended adult oral dosage for duodenal ulcer is 1 gm four times a day on an empty stomach.

Antacids may be prescribed as needed for relief of pain but should not be taken within one-half hour before or after sucralfate.

While healing with sucralfate may occur during the first week or two, treatment should be continued for 4 to 8 weeks unless healing has been demonstrated by x-ray or endoscopic examination.

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RADIOLOGY CLINIC

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Generalized Osteosclerosis in an 83-Year-Old Man With Hip Pain

DAVID PORTER, B.S.
ETHAN M. BRAUNSTEIN, M.D.
Indianapolis

AN 83-YEAR-OLD MAN presented to the emergency room with a three-to four-week history of right hip pain. He was otherwise in good health. Physical examination was normal with the exception of a prostatic nodule. Laboratory examination showed a serum acid phosphatase of 4.0 mg/100 mL (Normal <3.0), and an alkaline phosphatase of 520 mg/100 mL (Normal <75). An AP radiograph of the pelvis was obtained.

Discussion

There is diffuse sclerosis of the pelvis. Other radiographs showed that this sclerosis was disseminated throughout the skeleton. A biopsy of the prostate nodule demonstrated carcinoma.

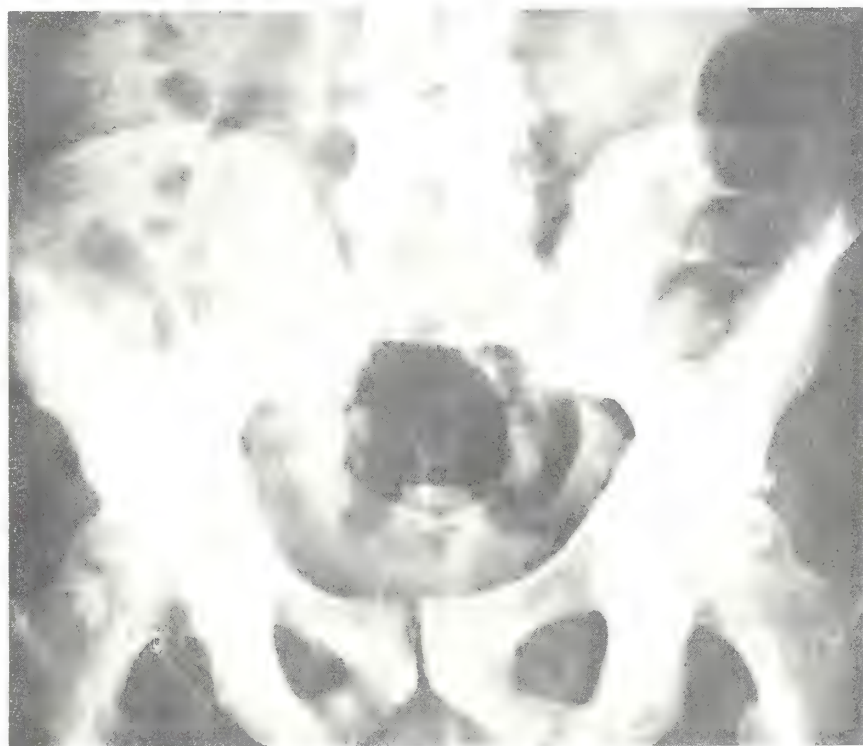
The radiographic differential diagnosis of diffuse sclerosis of the skeleton is lengthy, but in this patient's clinical setting metastatic prostate carcinoma is the obvious diagnosis. Other considerations should include metastatic disease from other primary sources, myeloproliferative disorders such as myelosclerosis with myeloid metaplasia or mastocytosis, and toxicity such as that secondary to fluorosis.

Although Paget's disease also may give generalized bony sclerosis, sclerotic Pagetoid bone usually has coarse, thickened trabeculae and thick cortex as well. The overall appearance of an individual bone in Paget's disease, particularly a long bone, is one of enlargement.

Of the myeloproliferative disorders, myelosclerosis (myelofibrosis) with myeloid metaplasia represents

presumably malignant proliferation of pluripotential cells of the marrow leading to excessive fibroblastic activity and collagen deposition in the marrow. There is associated myeloid metaplasia in the reticuloendothelial system, and splenomegaly is a prominent feature of the disease. Patients often present with bone pain. Due to the rapid metabolic turnover, hyperuricemia and secondary gout are com-

Patient's Radiograph on Admission: What Is the Patient's Problem?



From the Department of Radiology, Indiana University Hospital, 926 W. Michigan St., Indianapolis, Ind. 46223.

mon. Radiographically, there is patchy osteosclerosis with loss of trabecular detail, most commonly in the axial skeleton, pelvis and proximal long bones. However, in some cases, if this reactive sclerosis does not occur, there may be normal or decreased bone density.

Another myeloproliferative disease with osteosclerosis is mastocytosis, a rare condition that has both cutaneous and systemic forms. In the cutaneous form, occurring in about 95% of patients, urticaria pigmentosa is quite common. Rarely, patients may present with bone pain and radiographically apparent lesions consisting of adjacent areas of mottled increase and decrease of bone density. These lesions are due to mast cell infiltration of the marrow along with fibroblastic activity. In mastocytosis, sclerosis also may be due to bone infarct and osteonecrosis.

Dense bone also may be caused by toxicity due to hypervitaminosis A or to ingestion of substances such as lead, radium or arsenic. One of these

materials is fluorine, and, depending on geographical distribution and local fluorine content of drinking water, fluorosis may be common in certain local groups of people. Radiographically, there is osteosclerosis in association with enthesophytosis (bony proliferative changes at ligament and tendon insertions and at joint capsules, as well as ligament calcification, and periostitis). Patients may have "flowing" enthesophytes along the anterior longitudinal ligament and paraspinous calcification resembling those of diffuse idiopathic skeletal hyperostosis (DISH). The bone sclerosis appears as trabecular condensation with a "chalky" appearance, and there also may be parathormone induced osteoblastic or osteoclastic activity.

It is surprising that multiple myeloma, although usually thought of as purely lytic, may be densely sclerotic in a small percentage of cases. In many cases of sclerotic myeloma, there is an association with polyneuropathy, organomegaly, endocrinopathy,

M protein, and skin changes, the first letters of which form the acronym "POEMS" syndrome.

Metastatic disease of course should be the first diagnostic consideration. Although prostate metastases are the most commonly considered sclerotic lesions, other sclerotic metastases may be seen in carcinoma of the breast, lung and bladder, as well as malignant carcinoid and melanoma, among other tumors.

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Cocaine and the Heart

BRUCE F. WALLER, M.D.
Indianapolis

COCAINE WAS IMPLICATED in the deaths of basketball star Len Bias and pro football player Don Rogers. The deaths of these prominent athletes have focused public attention on the potentially fatal effects of cocaine. Numerous coaching associations, professional and amateur athletic organizations, medical and non-medical athletic societies and associations, legal groups and doping control laboratories are addressing the issues of mandatory screening of athletes for the detection of cocaine and other illicit substances. Several instances of player suspension for detection of illicit substances in urine samples have occurred recently in professional baseball, basketball and football. The purpose of this report is to provide a summary of the current effects and complications of cocaine usage.

The number of people in the United States who use cocaine has increased exponentially over the last 15 years. The increasing abuse of cocaine is related in part to cheaper forms ("crack") and the misbelief that cocaine is a benign and nonaddicting aphrodisiac.¹ Complicating the issue was the 1973 report of the Strategy Council on Drug Abuse that stated that morbidity associated with cocaine abuse did not appear to be great and that there were virtually no confirmed deaths attributed solely to cocaine overdose.²

Survey statistics indicate that in 1972 about 9% of young adults (ages 18 to 25 years) had tried cocaine. Between 1974 and 1985 the lifetime prevalence of cocaine use drastically rose from 5.4 million to 22.2 million.^{2,3} Current estimates indicate that about 25 million Americans have used or use cocaine, that about 4-5 million people use cocaine on a regular basis, and about 1 million Americans are addicted to the drug.^{3,5} There has been a sharp increase in cocaine treatment programs, emergency room treatment and admissions, and cocaine associated mortality.³

An alkaloid prepared from the Erythroxylon coca plant primarily located in South America, cocaine was first used as a local anesthetic in the late 19th century. Cocaine can be inhaled, smoked or injected (intravenously, intramuscularly, subcutaneously).

Until recently, little information was available about the cardiovascular effects and complications associated with cocaine.^{3,6-31} Several reports have connected various cardiovascular events to the use of cocaine (*Figure*): myocardial ischemia,^{10,27} over 50 clinical or necropsy proven cases of acute myocardial infarction,^{10,23,25-29} cardiomyopathy,^{27,31} myocarditis,^{3,21,23} malignant ventricular arrhythmias with or without fatal or nonfatal sudden cardiac arrest,^{3,4,8,9,27} coronary spasm,^{5,6,8,9,12,15,23} and rupture of aorta.¹⁹

Several mechanisms have been proposed to explain the pathogenesis of these various cardiovascular injuries associated with the use of cocaine (*Figure*).²⁷

(1) Cocaine is a sympathomimetic agent and sensitizes tissues to catecholamines, in part through the inhibition of catecholamine reuptake at nerve terminals.³² Tazelaar and associates²⁴ reported a 93% frequency of contrac-

Guest Editorial

An extensive review of the literature does not permit me to improve on the article entitled "Cocaine and the Heart" by Dr. Bruce Waller. This article is well written, detailed, authoritative and has 50 references, which essentially include the entire medical literature written on the subject of cocaine and the heart.

Any approach to editorialize on this article would be redundant and best described under the category of tautology.

I would like to compliment the editorial board and its editor, Dr. Frank Ramsey, for selecting this excellent article, which should serve as a reference on the topic of cocaine and the heart for those of us who practice clinical medicine.—William K. Nasser, M.D., Indianapolis.

tion-band necrosis in the myocardium of victims of cocaine-associated deaths in comparison to a frequency of 45% in control subjects dying of sedative-hypnotic overdoses. The authors attributed the presence of contraction bands to cocaine-induced catecholamine myocardial injury. It is well known that catecholamines may induce myocardial injury in humans, in particular those patients with pheochromocytoma.³³⁻³⁵ In the recent study by Virmani and associates,³ the frequency of contraction band necrosis was much less (56%) than the frequency in Tazelaar's study and only slightly higher than control deaths (41%). Virmani and colleagues³ suggested the marked difference in the frequency of contraction bands might be related to differences in populations studied, co-

Correspondence: Bruce F. Waller, M.D., Professor of Pathology and Medicine, Department of Pathology, Indiana University Hospital, N-340, 926 W. Michigan St., Indianapolis, Ind. 46223.

caine preparations, contaminants and adjuvants, route of drug delivery and chronicity of cocaine abuse.

As a sympathomimetic agent, cocaine can induce various tachycardias and produce severe systemic hypotension.³⁶ Myocardial ischemia and/or infarction may result from an increased myocardial oxygen demand.^{13,14,23,27,29}

(2) Cocaine is a potent vasoconstrictor.²⁷ Several instances of coronary artery thrombosis and spasm have been reported in patients with cocaine abuse. Acute coronary thrombosis in association with cardiac events (angina, acute myocardial infarction, sudden death) has been reported by Rod,²⁸ Smith,²⁹ Virmani¹³ and Isner²³ and colleagues. In some instances, there is underlying atherosclerotic plaque and in others the coronary arteries are normal. Coronary thrombosis occurring in coronary arteries free of atherosclerotic plaque suggests the role of cocaine-induced spasm or possible primary thrombogenicity of cocaine or its metabolites.²⁷

Coronary spasm has been associated with cocaine usage and has been postulated as a mechanism of myocardial infarction in those users with clean coronary arteries.^{5,6,8,9,12,15,23} Simpson and Edwards²¹ reported coronary artery narrowing in a young patient without underlying atherosclerotic plaque. The coronary artery was severely narrowed by fibrointimal proliferation that was attributed to underlying coronary artery spasm that caused focal vessel endothelial injury, platelet adherence and aggregation. Platelets liberate platelet-derived growth factor (PDGF) which induces intimal proliferative lesions. In patients with underlying coronary plaque, cocaine-induced spasm also may produce endothelial disruption at the surface of the plaque and promote platelet aggregation and further vasoconstriction from the release of platelet prostaglandins.³

(3) Cocaine abuse has been associated with myocarditis.^{3,21,23} In a recent study by Virmani and colleagues,³ a 20% incidence of myocarditis was noted in 40

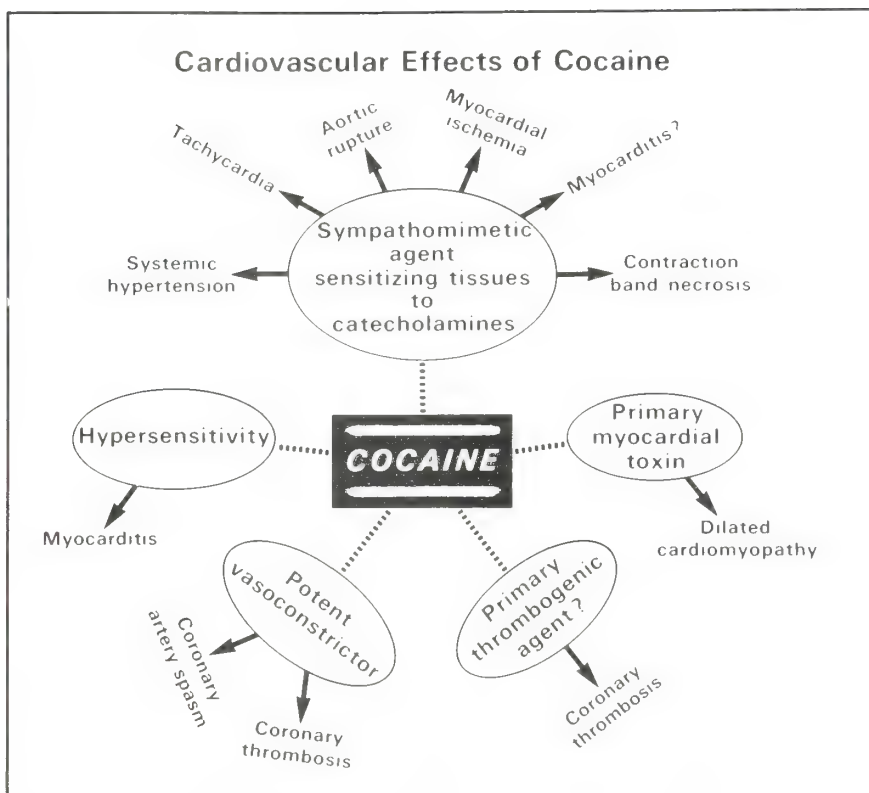


FIGURE: Diagram showing the effects of cocaine on the heart.

necropsy patients with death from cocaine overdose or homicide. This represented a significantly greater number of cases compared to sudden traumatic death control victims (4%). The foci of myocarditis were small and sparse and were composed of lymphocytes only (7/9 cases) or lymphocytes and eosinophils (2/9 cases). The foci of myocarditis had cell necrosis and may have been the site origin of ventricular arrhythmias and sudden death.³⁷

The etiology of cocaine-related myocarditis is unknown. Infectious agents (virus, bacterial, fungal) are possible, but reports to date have not proven this connection. As discussed above, catecholamine induced necrosis and inflammation and coronary vasoconstriction. Chronic administration of cocaine in the rat model has shown an increase in the concentration of left ventricular norepinephrine.³⁸ Norepinephrine is known to induce myocyte

necrosis with an associated inflammatory component.^{34,35} Cocaine also may have a direct effect on lymphocyte activity.³ Intravenous cocaine use can increase natural killer cell activity in the blood of humans,^{3,39} and natural killer cells may be cytotoxic to cardiac myocytes. Virmani³ and Lam²⁷ have suggested inflammatory infiltrates also may be an immunological response to other substances associated with adulterated cocaine. The presence of an eosinophilic infiltrate suggests a hypersensitivity etiology to the cocaine-induced myocarditis. Isner and colleagues¹⁷ reported a 25-year-old chronic cocaine abuser who had eosinophilic myocarditis. Hypersensitivity myocarditis may result from cocaine, its metabolites or any contaminate substance.

(4) Cocaine-associated fatal (sudden death) or nonfatal cardiac arrest. A cocaine-induced cardiac arrest has been

reported in association with underlying coronary atherosclerosis,⁴⁰ clean coronary arteries, and presumed coronary spasm and/or induction of ventricular arrhythmias. In the study by Virmani and colleagues,³ 24 of 31 "natural cocaine-associated deaths" were sudden (18 unwitnessed, six witnessed). Mittleman and Wetli⁴⁰ reported 24 cases of sudden death associated with cocaine abuse, 15 of whom had severe underlying coronary atherosclerosis. Cocaine-induced sudden death in these individuals may result from increased myocardial oxygen demands (ischemia), sympathomimetic action (vasospasm) and/or acute occlusion of diseased coronary arteries by platelet-fibrin thrombi (endothelial disruption, spasm).

(5) Cocaine-associated dilated cardiomyopathy. Dilated cardiomyopathy has been reported in four patients.^{27,31} At least one and possibly two of these patients had myocardial infarcts possibly related to coronary atherosclerosis (coronary dilated cardiomyopathy) while the remaining two patients had no other associated factor except chronic cocaine abuse (idiopathic dilated cardiomyopathy). The association suggests a possible myocardial toxic effect of cocaine.

(6) Cocaine-associated rupture of aorta. Barth and colleagues¹⁹ recently reported rupture of the ascending aorta in a 45-year-old man during cocaine intoxication. The patient had chronic systemic hypertension, and his aorta probably ruptured in response to a cocaine-induced hypertensive crisis.

Cerebrovascular accidents also have been reported to occur within minutes of cocaine use. At least five cases of cerebrovascular accidents have been reported: three with underlying cerebrovascular aneurysms, one with an arteriovenous malformation and one with thrombotic occlusion.^{41,44}

Polysubstance Abuse

The preceding discussion has focused on the deleterious cardiovascular and cerebrovascular effects of cocaine

abuse. As recently pointed out by Lam and Goldschlager,²⁷ myocardial ischemia and/or injury may not be associated solely with the use of cocaine since concomitant use of various other substances has occurred in several patients. It is possible that in some patients adulterants such as amphetamines or other contaminants may exert a synergistic effect with cocaine or even act as a direct causal factor in the production of myocardial damage.²⁷ Of the 11 patients with clinical myocardial injury studied by Lam and Goldschlager,²⁷ most were long-standing habitual polysubstance abusers (cocaine, methylphenidate hydrochloride [Ritalin], amphetamines, heroin).

Amphetamines, like cocaine, are known to increase the release of catecholamines from neuronal binding sites and also inhibit the reuptake of catecholamines.²⁷ Myocardial ischemia or infarction may result from increased myocardial oxygen consumption secondary to tachycardia and systemic hypertension. Myocardial injury due to amphetamines has been reported in experimental animals and humans.⁴⁵⁻⁴⁷ Zalis and colleagues⁴⁵ administered lethal doses of amphetamines to dogs and observed hyperthermia and hypermetabolic states. Experimentally, non-transmural hemorrhage of valve leaflets, epicardium and endocardium has been noted as well as myocyte necrosis and Purkinje fiber disruption.⁴⁵ Amphetamines have been implicated in peripheral vasospasm⁴⁶ and in the etiology of dilated cardiomyopathy.⁴⁷

Heroin also has been associated with myocardial injury. Nontraumatic rhabdomyolysis myocarditis and acute dilated cardiomyopathy have been implicated with heroin abuse.⁴⁷⁻⁵⁰

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New Research Building, Library To Open at I.U. Medical Center

LILLIAN HENEGAR
Bloomington

IN MARCH 1989 the first academic building to be constructed at the Indiana University School of Medicine in 30 years is expected to open its doors.

The Medical Research and Library Building, being built at a cost of \$34.1 million, is designed to give the school's faculty and scientists expanded facilities in which to continue advancing the frontiers of medical science and expanding their applications of medical discoveries. The new library, which will occupy 40% of the building, will allow the school to maintain its excellence in research, outreach and teaching.

Over the past three decades, research projects stemming from grants received by the school's faculty and scientists have outgrown available space. Many projects have not been initiated because there is not enough laboratory space in which to do them.

Walter J. Daly, M.D., dean of the School of Medicine, said of the new building: "It will provide the finest laboratory and research space possible and a state-of-the art facility for the medical library. For the first time, our top biomedical researchers will have the physical support they need to nurture the nucleus of collaboration so necessary for the broadly based in-

quiry demanded by modern medicine."

Basic cancer research will be done on two floors of the facility. The Walther Oncology Center will be located on the fifth, or top, floor. The School of Medicine's cancer research unit will occupy the fourth floor. This arrangement is designed to promote interaction and cooperation between researchers in both areas.

The Walther Medical Research Institute has provided \$5 million for core program support for the oncology center. The gift does not include funds toward facility construction, but instead provides essential and ongoing funds for support of research and an endowed faculty chair in oncology for the center's scientific director, Hal E. Broxmeyer, M.D.

The medical school's Division of Hematology/Oncology, including the Elks Cancer Research Center, has been given 14 laboratories in the building. The division's research program, now located in four buildings, will be unified and expanded.

The Department of Medical Genetics, under chairman Joe C. Christian, M.D., and the Human Genetics Center will be located on the first two floors, allowing the researchers in oncology and genetics to work more closely together. More than 15,000 square feet on the first two floors will house the school's genetic research programs.

P. Michael Conneally, Ph.D., will direct the Center for the Study of Human Genetic Diseases, which will be located on the first floor and include laboratories, the DNA bank and facilities for family counseling.

The modern genetics research facilities are expected to enhance the department's ability to attract and retain outstanding scientists and faculty

in this rapidly expanding field of medical research.

Also moving into the building is the Alcoholism Research Unit. This group of researchers, under the direction of its principal investigator, Ting-Kai Li, M.D., recently received a \$5 million grant from the National Institute of Alcohol Abuse and Alcoholism for research into the genetic and psychosocial factors of alcoholism.

Lawrence Lumeng, M.D., and William Bosron, Ph.D., will be scientific directors for the alcoholism research unit.

Researchers in the Department of Ophthalmology also will occupy the building. Although many of their activities will continue to be located in the Rotary Building, research into eye movements will be in the research facility.

Robert Yee, M.D., ophthalmology department chairman, said, "This lab's work will complement our clinical research program, which investigates diseases of the brain causing abnormal eye movement. I.U. will be one of the few sites in the world where basic science and clinical approaches in ophthalmology research are combined."

The new library will have more than three times the space it has in its current location.

"This new, larger facility will allow us to make our collection fully accessible," said Dana McDonald, library director. "It will put more of our collection on the shelves, and it will more than double the seating available to the library's users. It will also separate our disruptive photocopy and interlibrary loan operations from research and study areas. I.U.'s medical library is the only comprehensive medical library

The author is Director of Writing Services at the Indiana University Foundation in Bloomington.

in the state, so it's heavily used. With the new library, we can meet everyone's needs."

When the Indiana legislature authorized I.U. to issue academic facility bonds for \$20 million, it also issued a challenge to the school to obtain from the private sector the remaining \$14.1 million. Development officers at I.U. already have acknowledged more than \$9 million in private support. Donations have come from corporations, foundations, alumni, friends, faculty and staff. The Kresge Foundation authorized a grant of \$800,000, awarded on a challenge basis; the school must raise \$4 million by June 1, 1989, to qualify for the grant.

The building is located at 975 W. Walnut St., at the intersection of Walnut and Locke streets, or directly north of University Hospital.

Although the building will open in March, the official dedication will not occur until May 20. The date was selected to coincide with the School of Medicine's Alumni Day. An open house week is scheduled before the dedication.

The design architect is Ellerbe Associates of St. Paul, Minn., and the project architect is Boyd Sobieray Associates Inc. of Indianapolis. Geupel DeMars Inc. of Indianapolis is the general contractor.



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AIDS—A Study in Fear and Panic

Letter to the Editor

EVER SINCE MAN began to record his thoughts and his history in the printed word there has been no incident that has stimulated in the press such a sustained state of frenzy in the outpouring of terror-spreading articles as has the discovery of AIDS. This is true throughout the world wherever there is a literate public. Yet a calm assessment of the disease in terms of what is and is not known about it, against the historical background provided by chronicled reports of plagues of past ages, would provide reasons to challenge the unreasoning pessimism of those who would describe it as the pestilence that would end all humanity as predicted in the Apocalypse of the Bible.

In the 3,000 years that preceded this decade of AIDS, reliable history has recorded the incidence of three major plagues, pandemic enough in their proportions to be considered, in the context of their contemporary geography, as global in impact, and whose effects have changed the destiny of scores of nations. Those were the plagues of Thucydides that occurred around 329 B.C. and of Justinian about 547 A.D. and the Black Death of the Middle Ages. These pestilences were separated from each other by intervals of about 500 years, suggesting almost a phenomenon of cyclic recurrence.

Reports of contemporary chroniclers of those periods indicate that all had several features in common. No one knew when, how or where they first started, and when they did subside ultimately no one knew just why. Those diseases were invasive and totally pervasive. They were not influence-

ed by age, sex or race and were not restrained by geographical boundaries. Anyone who came in contact with the disease contracted it and usually died from it. There was no effective medical intervention. Physicians of those periods were helpless. Most of the available reports were by writers who were not even physicians. Apparently most of the doctors were the very early victims of the disease, for reasons that are perhaps obvious.

All reports from the chronicles at those times on the different plagues were all strikingly similar. Indeed if the reports of Thucydides of 329 B.C. were compared with those of the Byzantine historian Procopius, who chronicled the plagues of Justinian, and those of Giovanni Boccaccio, who reported on the Black Death and later himself succumbed to it, they can provoke a startling speculation.

This would be even more provocative and more exciting if the symptoms as reported in our literature on AIDS were introduced for a similar consideration: chills, fevers, loss of appetite, loss of weight, generalized weakness, prostration, eruption of skin lesions such as boils, progressive coughing, mental aberration, delirium and death. All these were established as diagnoses for the earlier plagues. Today these are all accepted as suggestive of AIDS. In ancient times there were no x-rays or laboratory tests to determine a differential diagnosis. So besides symptomatology there could have been no scientific analysis to establish or to discount a causal relationship.

In more ancient times, medicine was almost wholly an art and only in a

peripheral sense can it, in our modern terms, be considered a science. Diagnoses then were limited to symptoms and visual and tactile signs. Treatments were decided by pragmatic experience and hunches. Whatever differences noted for these plagues can be explained as mutations influenced by the differing lifestyles of the different ages. It should be considered as neither sensational nor absurd if it were suggested that AIDS may well be a mutatory form of the plagues of prior ages. All this however is not directly relevant to the expressed purpose of this article.

About 200 years ago Thomas Malthus, a celebrated British economist, wrote his famous treatise in which he argued that wars, famines and diseases were really nature's contrived recourses. These controlled population growth. And without these, a continued rapid multiplying of people can exhaust the physical resources of the world and lead to an inevitable general starvation on the planet. In our age of vaunted sophistication, this concept may be dismissed as simplistic or even as primitivism, but Malthus still has logic and mathematics on his side. An ever burgeoning body (people) in a rigid nonexpansible enclosure (earth) can ultimately have but one inevitable conclusion. For nature's active participation in all this, it can be argued that in spite of the fact showing that all the plagues rampaged devastatingly without being restrained by any human intervention; but yet after killing millions they themselves did die out spontaneously. They did not annihilate a vulnerable world. Cynicism of science

would of course suggest a different explanation. However, this still demonstrates that nature, while it may winnow, never annihilates its creation.

There are also other relevant and salient facts. In England just before the onset of the Black Death, the population was estimated to have been about 3 million. The plague ran its course within a period of three years. At the end of that time it was estimated that England had lost over one-third of its people. Conditions were even worse on the Continent. In France, Italy and Spain, entire villages and towns were depopulated and became deserted. Thucydides, in his report on the effect of the plague in Athens, stated that within six months of the epidemic such an enormous number of persons had perished that on many occasions there was no one to bury the dead. Corpses were frequently left lying on the streets. One remarkable factor true of all the plagues is that within 30 years following their subsiding seldom could there be found vestiges of the past disasters. Almost all of the deserted villages had been rebuilt, and once again the population began to rebound with new vigor.

Recently released official statistics on AIDS (incidentally every article presented as official presented different statistics) and a very authoritative article said that in the past 10 years since AIDS has been identified as a disease entity more than 50,000 persons in America had died of it. The same authority projected that by 1990 more than 2 million Americans will be infected with the disease. All

of these articles seem to have as a principal purpose the instilling of fear and panic. Each seems to strive to outdo the other in expressing the horrors of pessimism. A judicious examination and comparison of available facts show that now in mortality, AIDS cannot be compared with the devastating plagues of former ages. It must be kept in mind that current statistics on the mortality rates in America are for a population of more than 240 million. Compare this with what was reported for England, which at the time of the Black Death had no more than 3 million persons and lost one-third of this to that plague!

The purpose of this article is not to depreciate the potential of AIDS as a deadly world menace, but rather to allay an unreasonable panic that has been forced on the public and that has affected almost everyone across the social strata.

I am a practicing general physician in the ghetto area of my community. I serve large numbers of blacks and Latins—people who are reported to comprise a large proportion of the victims of AIDS. I have always had one of the largest practices in my area. Yet, without lacking an index of suspicion for that disease, I have been able to identify only one case of symptomatic AIDS. Another came to my attention only because of laboratory reports that had been forwarded to me. I have spoken with other colleagues. Most of them still have not discovered their first case of AIDS. Granted that these samples are microcosmic in context, they still can provide more realistic data for an ex-

trapolation that can represent the health status of a community.

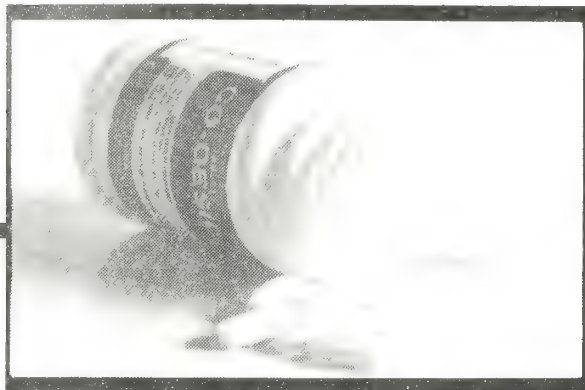
We who live in this 20th century have health protections undreamed of in the early ages. To our armamentarium that already has been tremendously impressive and effective, we have now added the dynamics of nuclear science and the laser beam. Almost every month a new generation of super antibiotics is being discovered. In prior ages man had nothing more potent than prayers and incantations to oppose the rampaging plagues. Yet the human race was not extinguished. Why then this present exercise in masochistic terrors? I am willing to predict that by the next 10 years AIDS will be remembered only as a nightmare of panic.

Many of those whose voices contribute to the cacophony of crescendoing fear cannot be identified as altruistic. They are beating the drums of panic. The sounds of these are penetrating the walls of Congress within which sit the committees that determine budgeting appropriations. These drums have been most effective. Apparently every one is marching to their beat, which demands more funds for those who research AIDS.

A very interesting observation: many physicians are also seemingly infected by this mass hysteria. When asked, they act embarrassed to admit to never having personally diagnosed a case of AIDS. Apparently they consider such an admission reflects on their professional alertness and competence.—E.L.C. Broomes, M.D., East Chicago, Ind.

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How To Decide Which Managed Health Care Plans To Offer

KATHY BOYLE
Indianapolis

THE INSURANCE INDUSTRY has changed dramatically in the past five years. The rising cost of health care has led to the development of alternative delivery systems such as health maintenance organizations (HMOs), individual practice associations (IPAs) and preferred provider organizations (PPOs). The traditional fee-for-service insurance plans are being challenged by managed care plans. In fact, employers, insurers and providers are predicting that by the end of the 1990s, between 70% and 90% of the population will be enrolled in a managed care plan.

In Indiana alone, there are 39 HMOs and nine PPOs. The numerous options make it difficult for a physician to decide which managed care plans best meet his or her practice needs. Physicians should select the appropriate plan for participation based upon many important considerations.

Research the Company

The first step is to find out all you can about the company. Determine who owns the company and what the company's management philosophy is. Request to see documentation of the plan's financial stability. You want to be certain the managed care systems you choose will be around in the future.

Determine Product Appeal

Next, you need to examine the product that is being offered to your patients and find out if the benefits are equal to other managed care plans in the marketplace. At the same time, you need to make sure the plan isn't overpriced or underpriced compared with other plans.

Before you select a managed care plan, you also need to know the size and representation of the provider networks with which the plan contracts. You also may want to find out what type of employer groups are being approached because these groups can have a major impact on a physician's practice. There are advantages and disadvantages as to whether the managed care plan is sold to union or non-union employers, large or small employers and groups or individuals.

Consider Medical Delivery System

Beyond the marketing aspects of a plan, you need to examine the structure and function of the medical delivery system. First, determine the physician's role in outlining and monitoring health services delivery. Identify the functional opportunities for the physician to have a participatory role in daily health services management, as well as long-range strategic health services management.

Evaluate Financial Arrangements

The most important area to consider is financial compensation. Begin by determining if the plan follows a discounted fee for service model or a capitated model. If the plan offers a capitated model, find out what services you are prepaid to deliver. Next, determine what funds are used to pay for acute care services and specialists. In

(Editor's note: This is the first in a series of three articles about managed health care plans.)

addition to understanding how all the covered benefits are paid, you need to find out about how profit is gained or loss is shared. And finally, you need to know if there is an entry fee and what your total out-of-pocket expenses will be.

Examine Contractual Obligations

To participate in most managed care plans, physicians are asked to sign a contract. Before signing a contract, you should consult a lawyer with expertise in managed health care plans. You and your attorney should review the contract carefully to determine each party's obligations and termination requirements. The responsibilities should be equitable and provide you the opportunity for mutual agreement in the event of policy changes.

Consider Practicality of Policies

Once you decide a specific plan meets your needs administratively, economically and contractually, decide if it is practical. Find out if policies are enforced statewide or adjusted to fit local and regional differences in health care needs. In addition, you want to find out if you will be involved in the management and operations, and if your involvement will be local, regional or statewide. Some plans offer participation on the board of directors with a chance to evaluate all aspects of management.

Examine Quality Control

It's important to assess the quality of the network with whom you poten-

The author is vice-president of medical delivery at HealthPlus HMO.

tially will be sharing risk or profit. Begin by making certain you are participating with physicians who meet a designated level of expertise. Review the credentialing process and denial criteria to determine the standard for acceptance.

Malpractice suits are another area of concern. Many HMOs require physicians to carry their own malpractice insurance.

It also is important to know what hospitals you can use to refer patients. How will the plan deal with changes in hospital administration? If hospitals under contract make a policy change that is not in line with the HMO's guidelines, the contract may be terminated. Find out what procedure you will have to follow to communicate your concerns about plan hospitals.

You also need to find out what types of contracts the plan has with ancillary providers and any arrangements for discounted services. You also should ask if there is a quality assurance committee and a utilization review committee that evaluates the provision of services on a regular basis. Quality control systems are critical to a plan's success.

Review Claims Payment Requirements

You should also determine how claims payments are decided. Are pa-

tients denied payment without prior authorization? How quickly are you notified if one of your patients has terminated coverage? What provisions are made for medical consultations? As a primary care physician, you are the gatekeeper who controls patient utilization of medical services. In addition, you need to find out what forms you will be required to submit on a routine basis.

Determine Customer Satisfaction

Customer satisfaction with a plan needs to be considered as well. If members aren't pleased with the service, they won't hesitate to change their health care plan. You want to be sure you are joining a managed care plan that emphasizes customer service and responds quickly to any problems that might develop.

Examine Communication Procedures

Receiving information about how the plan operates and any policy changes as soon as they occur also is important in developing a good working relationship with a managed care plan. You should find out how information is distributed to physicians.

On the other hand, how will your opinions and concerns be responded to by the managed health care plan's representatives? Will you work with

a physician liaison? Is there a set grievance procedure? Strong two-way communication will facilitate a strong relationship between physician and managed care plan administrators.

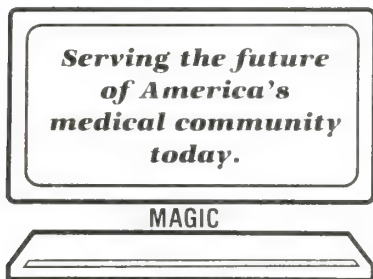
In summary, the primary areas of consideration should be:

- the history, philosophy and management of the company;
- the plan's position and appeal in the marketplace;
- the role of the physician in the organization;
- the financial compensation arrangements for the physician;
- the contractual obligations;
- the practicality of policies;
- the quality assessment/assurance and utilization review procedures;
- the claims payment requirements;
- the level of customer satisfaction; and
- the methods of communication.

After you analyze these areas, talk with other physicians who belong to the plan you are considering. Personal experience is one of the best methods of evaluating a plan. If you take the time to closely examine the company, the economic incentives, the utilization management/quality assessment systems and the overall member satisfaction, you should enter into a successful partnership with a managed care plan.

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Divorce Tax Strategies

IF YOU ARE involved in a divorce, don't be surprised if your lawyer doesn't understand the latest tax laws and strategies. This can cost you plenty and put more dollars in your former spouse's pocket. Some times you both pay more.

IRS publication 504 will detail the latest tax rules, and the IRS will mail it to you at no charge. It's stale reading that gives you only the facts and no strategy. If your lawyer is a litigation specialist not familiar with tax law, seek the help of a tax or financial specialist who is.

For example, the current tax law concerning property settlements gives the receiver the original cost (the tax basis) of the property. This offers the informed party an opportunity to take advantage of the other.

Recently, a husband suggested that his estranged spouse accept their home and adjacent land and he keep the business. This was not an unusual request, especially because young children were involved.

Upon questioning the wife about her future plans, I found that she planned to sell the real estate and to move into an apartment. She did not want the responsibility of maintaining the home and wanted to be closer to her job.

The problem with such an arrangement is that she would have to pay taxes on the substantial appreciation that the real estate had experienced. In this case, the property had increased in value fourfold.

The author is president of Conner Planning, Inc., a business financial planning company affiliated with the Conner Insurance Agency, Inc. Offices are located in Indianapolis, Bloomington and Kokomo, Ind.

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GREGORY WRIGHT, CFP
Indianapolis

Needless to say, the marital assets were re-calculated using the after-sale, after-tax value of the real estate. Also, his business was appraised as an ongoing concern, rather than valued at its "book" value.

This same strategy is often used when transferring common stock to an unsuspecting spouse. A block of stock that has gone up substantially over the years can result in a loss of a third of its value after selling and tax costs. Capital gain tax rates are no longer the boon that they once were. This fact should shift your strategy.

Since 1985, pension plan assets (including IRAs, Keoghs and 401(k) plans) can be split following a divorce. Because income taxes usually have not been paid on these assets, they deserve special consideration.

Child support payments are not deductible to the payer and are not taxable to the recipient. However, alimony (or temporary support) is deducted by the payer and claimed as income by the recipient. This offers some opportunity to shift taxable income from the high tax bracket individual to the low bracket person.

Often, property settlements are disguised as support. However, the IRS realizes this too, and the regulations governing this issue are complex.

The so-called "kiddie tax" takes on new meaning when the child's parents are divorced. This tax requires children under age 14 with unearned income above \$1,000 to pay taxes on that income. The rate is equal to the rate of the higher tax bracket parent. Therefore, in order to complete the tax return, tax information is required from both parents.

Knowing a former spouse's tax information, and that he has just had a surge in income, might be enough to spur a request for increased child support.

During periods of legal separation, or when a divorce is underway, it is usually prudent to file separate tax returns. This is because the IRS holds both parties to a joint return liable for tax debts. The so-called "innocent spouse" rules do not protect from the payment of taxes, even if it were from a tax shelter or business deal that did not involve the other spouse.

Ideally, in most business negotiations, the secret to success is to match the needs and situation of both parties. However, almost all divorces are wars. Even attorneys get caught up in the combative nature of our legal system. Sometimes it can't be avoided. However, in some cases, cooler-headed attorneys and their legal-support advisers can work magic.

Recently, when faced with a divorce, a business owner realized that he didn't have the liquid assets necessary to provide a property settlement for his wife. His business represented the major marital asset. Because the business was already highly leveraged, he didn't have sufficient borrowing power to raise all the necessary cash.

He realized that he might have to take on an unwanted partner or sell the business in order to pay off his wife.

However, his lawyer and financial adviser devised a plan that satisfied both his need to control the business,

his wife's need for income, and both party's tax situations: his company adopted an ESOP.

In this case, the ESOP (Employee Stock Ownership Plan) used an existing pension plan's assets to purchase the wife's portion of the company's stock. His wife received the settlement in cash, which she reinvested full-strength and without any current tax liability.

The existing pension assets were not quite sufficient to meet the property settlement; however, that was solved in a manner unique to ESOPs. The

balance was borrowed at lower than market rates. The amortization of this loan—both interest and principal—is fully deductible to the company.

Ultimately, a divorce seems to be a complicated, emotional, expensive and exhausting experience. In complicated situations and where business ownership is involved, few, if any, individual advisers possess all the knowledge and experience necessary to sufficiently protect the interests of either spouse. A team of expensive experts often is required. Knowing this may be what keeps some people married.

QUO VADIS, HEALERS?

Guest Editorial

PHILIP S. CHUA, M.D.
Merrillville

THE TREMENDOUS and disturbing changes in the medical practice environment now are beginning to wreak havoc and instill concern among physicians all over the country. More and more controls and restrictions on how doctors should practice medicine are coming into play. Even third party payors are tightening their purse strings according to their own whims.

The sign and symptoms of socialized medicine, in one form or another, are slowly surfacing, first in subtle ways, but now becoming more and more overt as time passes by. It seems it won't be too long until the government,

and non-physicians, will be in total control of the medical practitioner.

To scrutinize and decipher what the etiology is of this malady afflicting the physicians is not difficult at all. It is quite obvious, knowing the nature, personality and idiosyncracies of these men of medicine, that the blame is definitely on us, the physicians. We belong to a breed of intellectuals who are too independent, too circumspect, too self-assured for our own good. We refuse to unite and organize ourselves in order to attain power and clout. We refuse to be vigilant to protect our welfare and our future. We refuse to play an active role in the political realities of our time. We seem to feel invincible and untouchable.

The physicians have obviously decided and opted to maintain their individuality and their independence and succumb to the onslaught of severely regulated practice of medicine. While some segment of the leadership of organized medicine fought these intrusions and incursions, we did not do so as a united front, with solidarity and with one voice. The majority of us were disinterested and indifferent, and remained on the sidelines—too busy to

look to the future.

If the medical community were united and organized, the more than half a million physicians in the United States under the leadership of the American Medical Association—with the help of their families, friends and patients—would have been a most potent force to contend with. It would have been as powerful and as effective as the labor unions, the civil rights movement and the other terribly influential sectors in this country.

The constrictive effects of the "new ball game and its rules and regulations" thrown into the practice arena are beginning to be felt, and the physicians are starting to feel the pain. They are vehemently complaining. Unfortunately, as in the past, these criticisms and objections are being aired only in the confines of the doctors' lounges and surgical dressing rooms, never in a concerted, organized, meaningful and effective manner. It seems that we, the physicians, have not learned our lesson at all. And if we have not learned it by now, the future of medical practice will continue to deteriorate—becoming a situation that perhaps we deserve, for we alone are to blame.

The author is a practicing cardiovascular surgeon in northwest Indiana. He is the president and chairman of the board of the Physicians Choice of Northwest Indiana (PCNI), an Independent Practice Association composed of 318 physicians, seven hospitals and more than 140 pharmacies.

New Law Preserves Physicians' Rights to Distribute Drug Samples

GERALD J. MOSSINGHOFF

PHYSICIANS SHOULD know that their right to use and distribute drug samples to patients is in no way affected by the new Prescription Drug Marketing Act.

President Reagan signed the act into law in April. Its main thrust is to establish new requirements affecting the distribution and marketing of prescription drugs. Of specific interest to physicians are the provisions that ban the sale, trade or purchase of drug samples and require manufacturers that distribute pharmaceutical samples to follow certain storage, handling and accounting procedures.

Criminal penalties went into effect

The author is president of the Pharmaceutical Manufacturers Association, based in Washington, D.C.

July 22, 1988, for anyone who sells, trades or purchases drug samples. The penalties can be as much as 10 years in prison and up to \$250,000.

The physician needs to keep in mind a few points about this new law:

1. The law does not prevent physicians from receiving or dispensing drug samples.

2. In order to receive samples, physicians are required to sign a written request form verifying the identity of the drug and the quantity requested. This part of the law became effective Oct. 20, 1988. This written request form is required by some states and is already commonly used by manufacturers.

3. Although the law does not require physicians to maintain records, manufacturers may ask physicians for their help in assuring that they did receive the samples requested. While the new law does not mandate physicians to cooperate with this verification procedure, the law does encourage manufacturers to implement such a system.

The Pharmaceutical Manufacturers Association and the American Medical

Association convinced Congress that the initial proposals to ban samples would hamper efforts to provide quality medical care.

Samples allow the physician to evaluate a specific drug to ensure the patient tolerates it and to determine if the drug has the desired effect. Samples also permit the physician to begin therapy immediately, which can be important in some cases, especially in rural areas.

As a result, the legislation that was passed does not threaten the practice of sampling, but does help safeguard the integrity of prescription drugs distributed in this manner. In fact, many of the procedural requirements imposed on manufacturers have long been established policies for PMA member companies.

Physicians and patients value drug samples, according to surveys, and believe the practice of sampling should continue. PMA and its member companies also believe in the value of sampling, and we will work to implement this new law smoothly so that samples can continue to play a useful role in patient care.

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WILLIAM M. DUGAN, JR., M.D., Indianapolis

THE METHODIST HOSPITAL Cancer Center of Indianapolis offers a cancer support group called Families Living with Cancer. The bimonthly meetings, held in conjunction with the staff of Methodist's A wing on the sixth floor of the south unit, give families an opportunity to learn more about cancer in a supportive environment surrounded by other families coping with similar situations. Staff nurses are available at each meeting to answer questions.

THE LITTLE RED DOOR conducts an oral cancer screening and detection clinic the second Saturday morning of each month. The clinic is held at the Indiana University School of Dentistry Oral Diagnosis/Oral Medicine Clinic, 1121 W. Michigan St., Indianapolis. Volunteer medical and dental professionals examine the soft tissue and structure around the mouth. To schedule an appointment for the free clinic, call the Little Red Door office, 925-5595.

THE AMERICAN CANCER SOCIETY has available books designed for the woman with cancer and her partner and for the man with cancer and his partner. The books are entitled *Sexuality and Cancer: For the Woman Who Has Cancer and Her Partner* and *Sexuality and Cancer: For the Man Who Has Cancer and His Partner*. Each book contains material on problems with treatment, strategies for dealing with sexual problems, coping with depression, rebuilding self-esteem, the single person with cancer, myths about cancer, professional help and resources. The books are free and available from the American Cancer Society, Indiana Division, 9575 N. Valparaiso Court, Indianapolis, Ind. 46268.

CANCER CARE '89, the first annual Queen's Cancer Institute Symposium, will be held Feb. 28 to March 3, 1989, in Honolulu, Hawaii. Program topics include Updates in Oncology Practice,

Updates in Lung Cancer, Head and Neck Cancers and Gastrointestinal Cancer. Tours and entertainment also will be available. Tuition fees are \$350 for physicians and \$100 for other health professionals. For more information, call 1-800-367-0741.

THE AMERICAN SOCIETY OF HEMATOLOGY will conduct its 30th annual meeting Dec. 3-6 in San Antonio, Texas. Education sessions will be Dec. 3 and 4. Dr. Gianni Bonadonna will deliver the Ham Wasserman Lecture; his topic will be "The Influence of Clinical Trials on Current Treatment Strategy." Simultaneous sessions will be Sunday afternoon and all day Monday. The Presidential Symposium, which this year will deal with "Bone Marrow Transplantation: The Current State of the Art and Directions for Research" and the Stratton Lecture will be Tuesday morning. "Mini plenary" sessions are scheduled for Tuesday afternoon. For more information, call (512) 224-3061.

Look-Alike and Sound-Alike Drug Names

BENJAMIN TEPLITSKY, R. PH.
Brooklyn, N.Y.

Look-alike and sound-alike drug names can be misinterpreted by a nurse reading doctors' orders or by a pharmacist compounding physicians' prescriptions. Such misunderstandings can result in the administration of a drug not intended by the prescriber. Awareness of such look-alike and sound-alike drug names can reduce potential errors.

Category:
Brand Name:
Generic Name:
Dosage Forms:

Category:
Brand Name:
Generic Name:
Dosage Forms:

LITHOSTAT

Urinary tract
Lithostat, Mission
Acetohydroxamic acid
Tablets

GUANADREL

Antihypertensive
Hylorol, Pennwalt
Guanadrel sulfate
Tablets

LITHONATE

Antimanic agent
Lithonate, Reid-Rowell
Lithium carbonate
Capsules

GUANABENZ

Antihypertensive
Wytensin, Wyeth
Guanabenz acetate
Tablets

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AUXILIARY REPORT

Ann Wrenn, Bloomington
ISMA Auxiliary President 1988-89

THIS YEAR AS always, health projects are a focal point of the Indiana State Medical Association Auxiliary. In keeping with the goals of our National Auxiliary, we are again focusing on adolescent health projects. Each county has been requested to choose at least one adolescent health project to deal with a need in its area. In addition to this, the state auxiliary is encouraging counties to help promote projects concerning AIDS education in the schools, a tobacco free society, teenage pregnancy, alcohol and drug addiction and teenage suicide.

In September, mini-leadership conferences were held in Marion and Nashville. These featured excellent speakers, who spoke in one of these areas or presented a pertinent project already in place.

Susan Rogers, M.D., spoke about AIDS and Public Law 123, which states that each school corporation in Indiana must include in its curriculum instruction information about AIDS. Dr.


Rogers told how important it is that this education be based on sound medical principles, while still reflecting community mores. Keeping this in mind, the Wayne-Union Auxiliary will again distribute the AMA pamphlets, "Teens and AIDS," to all high school students through the High School Peer Information Center.

Robert Cole, program director of the Alcoholism Institute in Merrillville, brought us his BABES Program. This program uses story books and puppets to instruct students in kindergarten through third grade on "how to make good decisions, cope with peer pressures, develop a positive self image, alcohol/drug information, and what to do about being physically and sexually abused." North Lake County Auxiliary has been instrumental in keeping this project alive through its donations for the purchase of additional sets of BABES puppets. Mr. Cole encouraged auxiliaries to become involved in BABES by helping to introduce it to other county schools.

One of our own auxiliaries, Carol Hinshaw of Wayne-Union County, headed up a task force in Wayne County to study teenage pregnancy. Mrs. Hinshaw, in conjunction with United Way, studied this problem with community leaders from all walks of life. The task force should be completed by the end of the year, and recommendations and solutions will be made based on the extent of the problem in Wayne County.

We at the state level are encouraging each county to be in touch with its television and radio affiliates to promote the PSAs on teenage pregnancy from the American College of Obstetricians and Gynecologists. This program uses public service announcements to "dispel common myths and motivate teenagers to send for the facts." This booklet tells young people how to avoid unintended pregnancies.

Indiana Auxiliaries are busy and involved people, and the health of our youth is one of our priorities.—**Kathy Cabigas, ISMA Auxiliary Health Projects Chairman.**

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CME QUIZ

TO OBTAIN ONE HOUR OF CATEGORY 1 AMA CME CREDIT, answer the following questions by circling the correct answer on the answer sheet below. Complete and clip the application form and mail it to: Indiana University School of Medicine, CME Division, BR 156, 1226 W. Michigan St., Indianapolis 46223.

Infertility

CONTINUED FROM PAGES 937-940

- In the past 20 years the incidence of infertility in the United States has:
 - increased, and the number of visits to physicians' offices has increased.
 - decreased, but the number of visits to physicians' offices has increased.
 - decreased, but the number of visits to physicians' offices has increased.
 - remained unchanged, but the number of visits to physicians' offices has increased.
 - increased, but the number of visits to physicians' offices has remained unchanged.
- Which one of the following represents the currently accepted lower limits of normality for a potentially fertile ejaculate?
 - Concentration of 20 million per milliliter or 100 million per total ejaculate.
 - Concentration of 60 million per milliliter or 150 million per total ejaculate.
 - Concentration of 10 million per milliliter or 25 million per total ejaculate.
 - Concentration of 5 million per milliliter or 20 million per total ejaculate.
 - Concentration of 15 million per milliliter or 20 million per total ejaculate.
- On a postcoital test the patient is found to have scanty opaque cervical mucus with two to three non-motile sperm per high power field. Which of the following circumstances could explain these findings?
 - The ovulation day could be later than predicted by previous cycle length.
 - The husband could have a low sperm count with poor motility.
 - The patient could have chronic endocervicitis.
 - The patient could have antibodies to her husband's sperm.
 - All of the above.
- On repeat postcoital testing three days later, the mucus is clear and watery with excellent spinnbarkeit and an extensive arborization pattern after drying. Examination still shows two non-motile sperm per high power field. Which of the following would be unlikely to explain the findings?
 - The ovulation day could be later than predicted by previous cycle length.
 - The husband could have a poor sperm count with low motility.
 - The patient could have chronic endocervicitis.
 - The patient could have antibodies to her husband's sperm.
 - All of the above.
- Which of the following is the minimum number of actively motile sperm per high power field on postcoital test that reflects a normal ejaculate and therefore can substitute for a semen analysis?
 - 5
 - 10
 - 15
 - 20
 - 25
- Which one of the following studies is most appropriately performed immediately before ovulation?
 - Endometrial biopsy
 - Postcoital test
 - Hysterosalpingogram
 - Serum progesterone
 - Laparoscopy
- Which of the following is least accurate in quantifying luteal phase function?
 - Timed serum progesterone

Following are the answers to the CME quiz that appeared in the October 1988 issue: "Congenital Heart Disease."

OCTOBER CME QUIZ Answers

- | | |
|------|-------|
| 1. b | 7. b |
| 2. b | 8. b |
| 3. a | 9. c |
| 4. b | 10. b |
| 5. c | 11. d |
| 6. b | 12. c |

CONTINUED ON PAGE 995

Answer sheet for Quiz: (Infertility)

- | | |
|--------------|---------------|
| 1. a b c d e | 6. a b c d e |
| 2. a b c d e | 7. a b c d e |
| 3. a b c d e | 8. a b c d e |
| 4. a b c d e | 9. a b c d e |
| 5. a b c d e | 10. a b c d e |

Name (please print or type) _____

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To be eligible for this month's quiz, send your completed, signed application before Dec. 10, 1988, to the address appearing at the top of this page.

I wish to apply for one hour of category 1 AMA Continuing Medical Education credit through the I.U. School of Medicine. I have read the article and answered the quiz on the answer sheet above. I understand that my answer sheet will be graded confidentially, at no cost to me, and that notification of my successful completion of the quiz (80% of the questions answered correctly) will be directed to me for my application for the Physician's Recognition Award of the American Medical Association. I also understand that if I do not answer 80% of the questions correctly, I will not be advised of my score but the answers will be published in the next issue of INDIANA MEDICINE.

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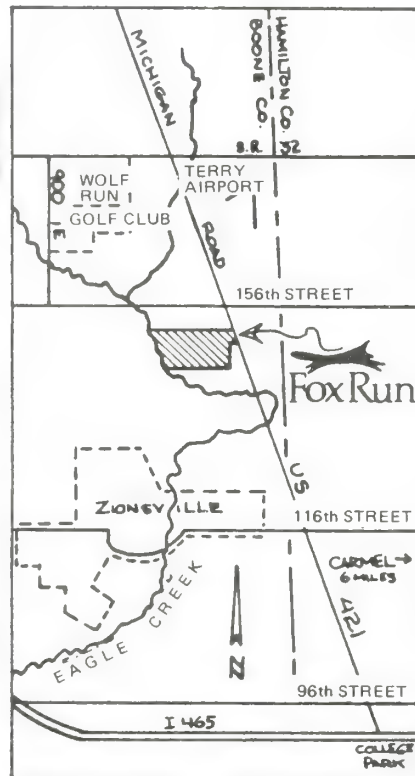
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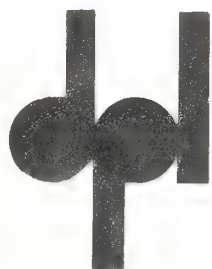
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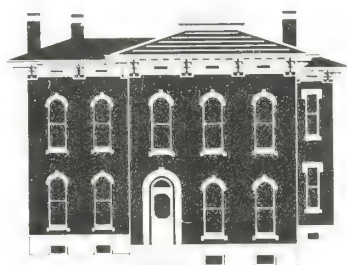
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REDUCE YOUR PAPERWORK

By Arthur R. Pell, Ph.D.

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As Robinson Wyler, Vice President of Branch Operations of a major California bank, was walking through one of his bank's offices, he noticed that one of the clerks was busily engaged in filling out a pink form. "Aren't you aware," he asked her, "that the information on this pink form is now in the computer and the pink form is no longer needed?" She looked puzzled. "Of course I know this data is in the computer," she responded. "I am the person in this branch that puts it in the computer, but nobody ever told me that I should discontinue using the pink form."

Further investigation brought out that although, the information had been computerized over a year earlier, nobody had issued a directive to discontinue the pink form.

How many forms does your organization have that have outlived their usefulness, but are still being used—at great expense in time, money and effort—because nobody took the necessary steps to discontinue them?

Try it for its life

Every standardized report, form letter or other printed documents that are repeatedly used should be tried for its life periodically.

When should this evaluation take place? At the minimum, no form should be used for more than two years without being given careful evaluation to determine its value. If any significant change is made in the area in which the form is used, such as the introduction of new methods, or equipment, this evaluation should be accomplished as soon as the new methods or equipment have been in place long enough to determine how it affects the total operation.

Another good time to study this is when the supply of forms is getting low and you are ready to reorder them. No printed matter should be sent for reprinting before a careful evaluation has been made. If this had been done at the California bank, when the pink forms were scheduled for reprinting, their obsolescence would have been noted at that time.

For every form or document, ask three questions to determine if they should be kept or eliminated:

Is this form still needed?

Often, the reason for the creation of the form is lost in company history. It served a purpose years ago and, because "we've always done it," it is continued. This is not limited to paper work. Recently the government prohibited smoking on all flights of two hours or less. Yet for weeks after this ban, flight attendants continued to read safety rules that cautioned passengers to "put out all smoking materials" when oxygen was in use.

Can this form be combined with another form?

The salespeople representing Merchandise Marketers were required to complete a daily sales report that took about one hour to compile every evening after work. They were also required to complete a weekly and monthly report on their sales activities. A consultant, retained by the company to evaluate their paper work, asked the sales manager if all three reports were needed. "Absolutely, I need them all," the sales manager responded.

"Which of these is the most important?"

"I guess the weekly report. I base most of my plans on it."

"Then why do you need the daily?"

"It's convenient to be able to check sales between weekly reports."

The consultant picked up the word "convenient" and asked: "Do you know what this convenience costs?" He calculated the average hourly rate of a salesperson, multiplied it by the number of sales people and the number of working days a year. The figure staggered the sales manager. "I can do without that convenience," he said, and eliminated the daily report.

"Now, how about the monthly reports," asked the consultant.

"I don't even see them. They go straight to the controller." The controller indicated that she needed monthly reports because all financial reports were monthly. By arranging for a computer conversion of weekly information to monthly consolidations, the salespeople did not have to complete a monthly report.

Often there is duplication of information in reports. One report includes items A, B, C, D and E; another items D, E, F and G. By combining these into one report, much work can be eliminated.

Can the form be improved?

If the report or document cannot be eliminated or combined with another, before deciding on continuing it as it is, determine if it can be improved. Although much of the information on the inventory control form is as important today as when it was designed, there are some items that are no longer valuable and other information you wish were on it. Here is the time to make those changes. There is no point in continuing to use a form that is not perfectly suited for the job it's supposed to do.

Can the form be redesigned by better formatting? After using a form for a while, we often recognize that the information on it can either be compiled more easily or understood more readily if it were presented in a different fashion.

Have circumstances changed that mandate changing the form? When the Personnel Manager of the Tick Tock Clock Company was notified by the Equal Employment Opportunity Commission that the company application form contained seven illegal questions, he was shocked. The company was using the same form in 1988 that was in use in 1965 when the Equal Employment law went into effect. They had never changed the application form. When they ran out of stock they just reprinted the same form.

Form letters should be reevaluated in the same manner as reports and other documents. If the form letter sounds too impersonal or does not really answer the question it has been designed to handle, it should be rewritten. Remember, the image of your organization is projected to the reader by that letter.

If all forms, systems, reports and standardized letters are tried for their lives periodically, not only will countless hours of unneeded work be eliminated, but your people will be able to devote more of their time, energy and emotion to the matters that are really important to reaching the goals which you and your organization desire to reach.

Pocket/purse size reprints may be purchased (10 for \$10.00) or (25 for \$20.00) from Dale Carnegie & Associates, Inc. 1475 Franklin Avenue, Garden City, NY 11530

NEWS NOTES

Report Focuses on High Blood Pressure

"The 1988 Report of the Joint National Committee on Detection, Evaluation, and Treatment of High Blood Pressure" (JNC IV) is available from the National Heart, Lung, and Blood Institute. This is the fourth in a series of these reports.

JNC IV reviews, updates and expands the 1984 recommendations for controlling hypertension. It translates the results of the latest clinical trials to medical practice, addresses the needs of special populations, examines factors that influence the cost of care, and provides additional guidelines for managing high blood pressure in the presence of cardiovascular diseases and other coexisting medical conditions.

The report is intended as a guide for practicing physicians and other health professionals in their care of hypertensive patients and as a reference for those participating in the many community HBP control programs throughout the country.

A free copy may be obtained by contacting: The National High Blood Pressure Education Program, Information Center, 4733 Bethesda Ave., Suite 530, Bethesda, Md. 20814—(301) 951-3260.

Send your news items and comments to the Editor, INDIANA MEDICINE, 3935 N. Meridian St., Indianapolis 46208.

Ball State Offers Six Wellness Residence Halls

Healthy living is translating into healthy learning at Ball State University where hundreds of students are choosing to live in "wellness" residence halls.

Last year students in two residence halls improved their awareness of their physical, mental and emotional health in a program sponsored by the university's Institute for Wellness. The effort was expected to reach 1,172 students this fall when it was expanded to six residence halls.

In the program, students agree not to smoke or chew tobacco and to maintain around-the-clock quiet hours, keeping noise to a minimum. They also take part in "health risk appraisals" at the beginning and end of the school year for cholesterol levels, body fat, blood pressure and pulses.

Fitness rooms with exercise bicycles, universal exercise machines and a television to play fitness tapes are available in the wellness halls.

Patient Falls Is Topic of Video

The University Hospital in Augusta, Ga., has just released a new video, "Patient Falls: Panic or Prevention?" The 13-minute program, designed for health care workers at all levels, stresses a fall-prevention program, tells how to recognize patients at high risk and discusses practical steps to prevent falls.

It is available in various popular formats. For information, contact Jet Miller, Media Services, University Health Resources at (404) 826-8969.

Managed Care Plans Standards Revised

The Joint Commission on Accreditation of Healthcare Organizations has drafted revised standards for managed care organizations seeking accreditation. The standards cover five areas that address patient access to care, management structure, continuity of care, quality of technical care, and enrollee and member satisfaction.

More than 2,000 health care professionals will review the standards, which are to be published as the "Managed Care Standards Manual" in 1989.

Physician Recognition Awards



The following ISMA physicians are recent recipients of the AMA's Physician Recognition Award. This award is official documentation of Continuing Medical Education hours earned, and is acceptable proof in most states requiring CME in re-registration that the mandatory hours of CME have been accomplished.



Banguis, Eliseo T., Shelbyville
Bierlein, Alan H., Bristol
Bodmer, Ronald E., Bloomington
Brookes, Jeffrey A., Columbia City
Coats, Charles W., Greenwood
Colalillo, Alex, Logansport
Cooper, B.T., Roanoke

Epstein, Jack R., Fort Wayne
Felger, Thomas A., Fort Wayne
Fisher, Thomas H., Indianapolis
Higgins, Jack W., Kokomo
Koch, Edwin F. Jr., Muncie
Kubley, Jon B., Plymouth
Kurtz, Richard, Indianapolis
Morrison, Andrew L., Indianapolis

Munoz, Jose C., Fort Wayne
Murray, Richard P., Evansville
Nale, Stephen W., New Albany
Neumann, Theodore R., South Bend
Paner, Ronald J., Fort Wayne
Sankey-Swaim, Peggy, Rockville
Schuster, Dwight W., Indianapolis

Kellogg Foundation Announces 1989 Fellowship Program

The W.K. Kellogg Foundation has announced its Kellogg National Fellowship awards program for 1989. The three-year program is designed to prepare leaders who can function effectively and knowledgeably in dealing with complex problems where narrow expertise is not sufficient.

It seeks to involve professional men and women in the earlier years of their careers who are interested in developing interdisciplinary and cross-cultural perspectives on contemporary human and social problems.

The fellowship awards will be made to up to 50 individuals who have exhibited leadership potential in their community, organization or profession.

An applicant must be a U.S. citizen, accept responsibility to participate in all activities related to the program and receive 25% released time from his/her employer to carry out a non-degree, self-directed learning plan.

In addition, fellows must attend seven seminars sponsored by the foundation, including a two-week seminar

in Latin America. All others are one-week seminars held in various U.S. cities.

Deadline for applications is Dec. 19. For applications and information, contact: Kellogg National Fellowship Program, W.K. Kellogg Foundation, 400 North Ave., Battle Creek, Mich. 49017-3398 — (616) 968-1611.

Depressive Association Invites Referrals

The National Depressive and Manic Depressive Association of Central Indiana holds group meetings from 6:30-8:30 p.m. on the first and third Mondays of each month at Valle Vista Hospital, 898 E. Main St., Greenwood.

The chapter invites referrals from physicians and is able to include hospital in-patients who have a hospital pass.

The National D.M.D.A. has over 102 chapters in 38 states.

The local chapter is planning an answering service and will publish educational material. The local information center is staffed by Janie Teixler, 1408 Broadway, Indianapolis — (317) 631-5553.

Diabetes Researcher Gets Beering Award

The 1988 Steven C. Beering Award for Advancement in Medical Science has been awarded to Dr. Jesse Roth, director, Division of Intramural Research, National Institute of Diabetes, Digestive and Kidney Diseases; clinical professor of medicine, Uniformed Services University of Health Sciences; and clinical professor of medicine, Howard University School of Medicine.

This award is presented annually by the Indiana University School of Medicine to a researcher who has made outstanding contributions to the advancement of medical science.

During his research to develop a treatment for people affected by insulin-resistant diabetes, Dr. Roth investigated the nature of the cellular receptor for insulin and its regulatory and functional role.

This unique approach initiated a branch of research adopted by all those in biomedical research studying the molecular events that underlie hormone/cellular interaction.

Museum Notes

CONTINUED FROM PAGE 930

command the facilities necessary to reach the highest standard of qualifications in the profession, conceding we have the capacity to acquire them."

Dr. Bobbs was pragmatic. He wanted to do what was possible with existing resources to elevate the standard of practice of the average Indiana physician. He was more optimistic and held his fellow practitioners in higher esteem than did Dr. Kersey: "... There is talent enough in Indiana to do it. ..." He went on to say that both could not be achieved at once, but: "Bring the talent of Indiana to the support of a medical school or a journal and ... it will compel success."

The Indiana Medical College opened in 1869. A state medical journal appeared somewhat later.



George Siderys, an orthopedic resident at Fort Wayne, talks with Kaye Hatch (left) and Kathryn Alexander, representing Riverview Hospital, at the Practice Opportunities Session held recently at the Sheraton Meridian Hotel in Indianapolis. The Resident Medical Society and ISMA sponsored the event for all resident physicians. Forty Indiana hospitals were represented.

NEWS NOTES

Here and There . . .

Dr. Clifford W. Fетters, an Indianapolis family practitioner, discussed "Understanding and Taking Blood Pressure" during a recent program at the Carmel Medical Center.

Dr. Fred Spottsville Jr., an Anderson cardiologist, gave a program entitled "Ask the Doctor About Coronary Risk Factors and Hypertension in Older Adults" during August at Community Hospital North, Indianapolis.

Dr. Samuel M. Wentworth, a Danville pediatrician, spoke on "The Diabetic Child—Changes That Come with the Start of School" during an August seminar at the Indiana Vocational Technical College auditorium in Indianapolis.

Dr. Peter R. Foster, an Indianapolis cardiologist, published a paper that was presented at the international meeting of electrophysiologists at Monte Carlo.

Dr. Helen F. Steussy, a New Castle pathologist, has been elected a fellow of the College of American Pathologists.

Dr. Ramon R. Contreras, a Terre Haute obstetrician/gynecologist, spoke on "The Menopause and Beyond" during an August program at the Vigo County Extension Office.

Dr. Robert A. McDougal, an anatomic and clinical pathologist now of Indianapolis, was honored at a recent retirement tea by the Hendricks Community Hospital staff; he served as the hospital's laboratory director for 12 years and will continue part-time teaching at the Indiana University School of Medicine.

Dr. Charles R. Thomas, an Indianapolis obstetrician/gynecologist, received the Governor's Trophy for having the best Indiana commercial winery; the award was presented during the Indiana State Fair.

Dr. Kevin J. Murphy, a Lafayette cardiovascular surgeon, has received the Elizabethan Award, the most prestigious award presented by St. Elizabeth Hospital Medical Center in Lafayette.

Dr. Linda C. McQuinn, a Fort Wayne family practitioner, was appointed by Gov. Robert Orr to represent the American College of Emergency Physicians on the Indiana Medical Services Commission.

Dr. John J. Hartman of Angola returned earlier this year from the Afghanistan-Soviet war where he was a volunteer surgeon with the International Medical Corps, operating on the wounded Freedom Fighters; he operated on the refugee women and children bombed and injured by Soviet jets and helicopter gun ships, according to an International Medical Corps news release.

Dr. Arden C. Pletzer of Indianapolis has been elected president of the newly formed Indiana Society of Physical Medicine and Rehabilitation; members-at-large of the board of governors include Dr. Robert K. Silbert of Indianapolis and Dr. Stephen R. Ribaudo of South Bend.

Dr. J. Douglas Graham III of Beech Grove has been named a fellow of the American College of Cardiology.

Dr. Felipe S. Chua of Merrillville and Dr. Victor O'Yek of Schererville traveled to China in September to demonstrate the techniques of open heart surgery to doctors; they brought with them a team of 13 people, including nurses, anesthesiologists and technicians.

Dr. Bassem Atassi, a urological surgeon from Merrillville, spoke recently at the Methodist Hospital Southlake Campus in Merrillville on "Impotence: Causes and Treatments."

Dr. Stephen K. Kruse, a Kokomo ophthalmologist, spoke on "Prevention of Eye Injuries, Identification and Treatment" during a September meeting of the Carroll-White Counties Alzheimer's Disease and Related Disorders Support Group at St. Elizabeth Healthcare Center in Delphi.

New ISMA Members

William M. Alford, M.D., Indianapolis, obstetrics and gynecology.

Steven A. Clark, M.D., Indianapolis, anatomic and clinical pathology.

Aaron B. Crofoot, M.D., South Bend, emergency medicine.

Jo Ann Davis, M.D., Lafayette, pediatrics.

Raymond A. Davis Jr., M.D., Lafayette, pediatrics.

George A. De Silvester, M.D., Indianapolis, family practice.

Lloyd K. Everson, M.D., Indianapolis, oncology.

Joyce S. Fischer, M.D., Bluffton, pediatrics.

Ian R. Gardner, M.D., Indianapolis, general surgery.

Thomas J. Hughes, M.D., South Bend, occupational medicine.

Michael R. Johnson, M.D., Fort Wayne, ophthalmology.

John G. Jones, M.D., New Palestine, emergency medicine.

Juergen J. Lehmann, M.D., Bluffton, radiology.

Robert A. Lew Jr., M.D., Indianapolis, emergency medicine.

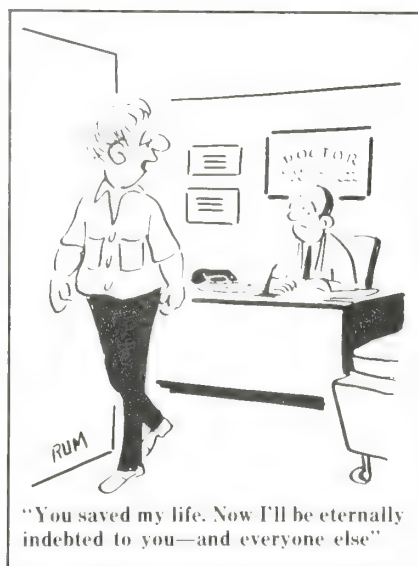
Sharon A. Lynch-Miller, M.D., South Bend, obstetrics and gynecology.

Jeffrey H. J. Nipper, M.D., Fort Wayne, orthopedic surgery.

Diana R. Pugh, M.D., Indianapolis, psychiatry.

J. Kevin Roll, M.D., Evansville, emergency medicine.

Dale A. Rouch, M.D., Indianapolis, general surgery.



Bradley M. Sutter, M.D., Indianapolis, internal medicine.

Mark A. Templeton, M.D., Indianapolis, anesthesiology.

Brian P. Zehr, M.D., Fort Wayne, pulmonary diseases.

Residents:

Jeffrey A. Atkins, M.D., South Bend, family practice.

Philip V. Bacidore, D.O., Vincennes, cardiovascular diseases.

Benjamin E. Ball, D.O., Indianapolis, internal medicine.

Eric G. Beier, M.D., Fort Wayne, emergency medicine.

Brian D. King, M.D., Goshen, family practice.

Frank P. Lloyd Jr., M.D., Indianapolis, oncology.

Susan A. Lochhead, M.D., Louisville, Ky., emergency medicine.

Lester D. Manzano, M.D., Muncie, anatomic and clinical pathology.

Marwin J. Martinez, M.D., Indianapolis, family practice.

Larry T. Micon, M.D., Indianapolis, general surgery.

Joseph H. Munning, M.D., Indianapolis, internal medicine.

Lynn M. Nelson, M.D., Indianapolis, orthopedic surgery.

Steven Pahner, M.D., New Albany, emergency medicine.

Jeffrey A. Penman, M.D., Logansport, obstetrics and gynecology.

Gregory S. Schmitt, M.D., Beech Grove, cardiovascular surgery.

Anantha Shekhar, M.D., Indianapolis, psychiatry.

Beth A. Snider, M.D., Indianapolis, pediatrics.

Wayne C. Snyder, M.D., Beech Grove, family practice.

J. Shannon Swan, M.D., Indianapolis, radiology.

Patricia W. Tharp, M.D., Indianapolis, pediatrics.

Steven R. Tung, M.D., Indianapolis, anesthesiology.

George J. Vellanikaran, M.D., Bluffton, cardiovascular diseases.

Kathleen J. Warner, M.D., Indianapolis, internal medicine.

Brian S. Zachariah, M.D., New Albany, emergency medicine.

Douglas G. Brooks, M.D., South Bend, family practice.

Kathryn B. Carboneau, M.D., Indianapolis, anesthesiology.

Steven R. Counsell, M.D., Greenwood, internal medicine.

Joseph M. Croffie, M.D., Indianapolis, pediatrics.

Vincent R. Delasalas, M.D., Muncie, anesthesiology.

Peter D. Farr, M.D., Mishawaka, family practice.

Terry D. Fenwick, M.D., Vincennes, orthopedic surgery.

Jonathan S. Fried, M.D., Muncie, internal medicine.

Marc L. Frost, M.D., Indianapolis, dermatology.

Ajay D. Gohil, M.D., Huntingburg, pediatrics.

Thomas M. Harris, M.D., New Albany, emergency medicine.

Shannon R. Kelley, M.D., Indianapolis, internal medicine.

CME Quiz . . .

CONTINUED FROM PAGE 976

- b. Timed serum progesterone and timed endometrial biopsy
- c. Serial serum progesterone levels
- d. Timed endometrial biopsy
- e. Basal body temperature record
8. A patient gives a history of irregular menses of eight months duration with increasing weight gain. On examination she has copious clear cervical mucus. Which of the following tests would be least likely to yield helpful information?
 - a. Serum progesterone
 - b. Serum prolactin
 - c. Serum TSH
 - d. Postcoital test
 - e. Semen analysis from her partner
9. Which of the following circumstances might lead one to perform a laparoscopy rather than a hysterosalpingogram to evaluate tubal patency?
 - a. Retroverted uterus and nodularity on the uterosacral ligaments
 - b. A previous episode of pelvic inflammatory disease requiring hospitalization for treatment
 - c. Age over 35
 - d. History of dysmenorrhea with increasing dyspareunia
 - e. All of the above
10. In an asymptomatic, anovulatory patient, ovulation is induced with clomiphene citrate. After which number of ovulatory cycles should tubal patency studies be performed if she has failed to conceive?
 - a. Studies should have been done before starting medication
 - b. One cycle
 - c. Three cycles
 - d. Six cycles
 - e. Twelve cycles

'Anglo-Saxon Words'

Letter to the Editor

I wholeheartedly agree with Dr. Noveroske [in reference to his commentary on page 582 of the June 1988 issue of *INDIANA MEDICINE*] on using short, straight-forward words, whenever available, instead of long, obscure and pedantic ones.

It turns out, however, that the words "cause" and "use" that he favors because they are "simple" and "Anglo-Saxon" are indeed simple, but not Anglo-Saxon. Both are derived from Latin, most likely through old French, and were probably added to the Celtic and Germanic dialects, then spoken in England, by William of Normandy (William the Conqueror) and his

followers, sometime in the 11th century.

By the way, Anglo-Saxon words may be long, as shown by examples in my first paragraph, and Latin words may be short and to the point, as exemplified by "use" and "cause."

I hope I've not taken too much of your time with linguistic minutiae, but I do think it is important to keep the record straight.—Alberto Waksman, M.D., Bluffton

Author's Reply

It [the letter from Dr. Waksman] is a scholarly, detailed letter, and it is correct.—Richard J. Noveroske, M.D., Newburgh

OBITUARIES

Sidney R. Goldstone, M.D.

Dr. Goldstone, 63, Munster, died Aug. 26 at his home.

He was a 1947 graduate of the University of Illinois Medical School and an Air Force veteran of the Korean War.

Dr. Goldstone was founder and chairman of the board of Universal Fire & Casualty Insurance Co., which specialized in providing medical malpractice insurance for doctors. He was a past president of the Flying Physicians Association and the Civil Aeronautics Medical Association. He was a diplomate of the American Board of Family Practice and a member of the American Academy of Family Physicians, the American Geriatrics Society and the American Society of Abdominal Surgeons.

Teodoro G. Guevara, M.D.

Dr. Guevara, 59, a Marion internist, died Aug. 26 at Marion General Hospital.

He was a 1955 graduate of Manilla Central University School of Medicine in the Philippines.

Dr. Guevara was a past president of the Grant County Medical Society and the Indiana Philippine Medical Association. He was a member of the American College of Physicians and the American College of International Physicians.

Frank B. Bard, M.D.

Dr. Bard, 80, a Crothersville general practitioner, died Sept. 9 at Jackson County Schneck Memorial Hospital in Seymour.

He was a 1936 graduate of the Indiana University School of Medicine and an Army veteran of World War II.

Dr. Bard was a member of the Jackson County Board of Health for more than 20 years and had been its chairman seven years. He began his medical practice in 1937 and was practicing at the time of his death. He was former president of the Jackson County Schneck Memorial Hospital board and a member of the American Academy of Family Physicians.

Thomas A. Cortese Sr., M.D.

Dr. Cortese, 80, an Indianapolis physician and surgeon for 54 years, died Sept. 1 at St. Francis Hospital in Beech Grove.

He was a 1933 graduate of the Indiana University School of Medicine and served in the Army Medical Corps during World War II.

Dr. Cortese founded the Cortese Clinic on the southside of Indianapolis in 1950 and was a pioneer in basic research and surgical technique for problems with female infertility. He was certified by the American Board of Abdominal Surgery. In 1964 he was named a Sagamore of the Wabash by Gov. Matthew Welsh.

Dale A. Davidson, M.D.

Dr. Davidson, 61, Indianapolis, a plastic surgeon, died July 17.

He was graduated in 1950 from the Indiana University School of Medicine. He was an Army Medical Corps veteran of World War II.

Dr. Davidson was a member of the Marion County Medical Society, the Indiana State Medical Association, the American Medical Association and the Ohio Valley Plastic Surgeon Society.

Clarence A. Laubscher, M.D.

Dr. Laubscher, 79, an Evansville family practitioner, died Aug. 7 at Deaconess Hospital in Evansville.

He was a 1934 graduate of Hahnemann Medical College and an Air Force flight surgeon in World War II.

Dr. Laubscher practiced medicine for 54 years. He was a member of the American Trapshooters Association for 42 years and was inducted into the Indiana Trapshooters Association Hall of Fame.

Palmer O. Eicher, M.D.

Dr. Eicher, 83, a retired Indianapolis orthopedic surgeon, died Aug. 20 in a nursing home.

He was a 1932 graduate of the Indiana University School of Medicine and an Army veteran of World War II.

Dr. Eicher, a diplomate of the American Board of Orthopaedic Surgery, worked at St. Vincent, Indiana University and Winona hospitals in Indianapolis. He was a member of the American Academy of Orthopaedic Surgeons.

Edson C. Fish, M.D.

Dr. Fish, 78, a South Bend anesthesiologist, died Aug. 16 in St. Joseph's Medical Center.

He was a 1936 graduate of the Indiana University School of Medicine.

Dr. Fish was a member of the American Society of Anesthesiologists and the ISMA Fifty Year Club.

Memorials: Indiana Medical Foundation

The Indiana Medical Foundation, Inc. was formed by the Indiana State Medical Association "for religious, charitable, scientific, literary or educational purposes." It provides financial assistance to support the educational mission of INDIANA MEDICINE.

Contributions made to the Foundation are deductible by donors in accordance with the Internal Revenue Code. Gifts are deductible for Federal estate and gift tax purposes.

The Foundation is pleased to acknowledge the receipt of gifts in remembrance of the following individuals:

Irvin W. Wilkens, M.D.
J. Neill Garber, M.D.
J. Melvin Masters, M.D.
Nancy A. Roeske, M.D.
Eugene S. Rifner, M.D.
Elsie A. Reid

Lester D. Bibler, M.D.
Lloyd A. Vogel, M.D.
Arvine G. Popplewell, M.D.
Mildred Ramsey
Richard Sharp
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—COMMERCIAL ANNOUNCEMENTS—

RUSHVILLE, INDIANA—Seeking director, full-time and part-time physicians for 58-bed hospital emergency department. Attractive hourly compensation and malpractice insurance provided. Benefit package available to full-time physicians. Contact: Emergency Consultants, Inc., 2240 South Airport Road, Room 20, Traverse City, MI 49684; 1-800-253-1795 or in Michigan 1-800-632-3496.

BLOOMINGTON, INDIANA—Ambulatory Care Center/ER. Group seeks full-time and part-time physicians to practice in two ambulatory care centers and hospital emergency department. Competitive salary and full range of benefits including CME. Scenic Southern Indiana area includes I.U., Hoosier National Forest, numerous lakes and exceptional cultural opportunities. Call Ruth Barrett at (812) 332-3443 or Dr. Charles McCalla at (812) 988-4318.

FOR SALE: General practice, south of Indianapolis with real estate. 7,000-patient base, fully equipped lab, liberal terms available. Call for video. Roger Wilson, Century 21 Waterford Group—(317) 887-4473 or 1-800-289-0021.

OCCUPATIONAL MEDICINE PHYSICIAN needed to rotate among several of our five hospital-affiliated clinics in the Cincinnati area. Competitive salary, bonus and benefits based on training and experience. Responsibilities to include all aspects of occupational medicine, with emphasis on injury care and physical exams. Considerable contact with local industries. For additional information, contact Peggy Gomien at (513) 569-5150.

FAMILY PRACTICE PHYSICIAN wanted for part-time, two or three days per week, office only, occasional night call. Potential \$50,000 per year income. To join practicing physicians. Excellent part-time job for a physician who is the parent of growing children. Greenfield is 15 minutes from Indianapolis on Interstate 70 and provides a rural atmosphere. New office with excellent facilities to open January 1988. Write: James T. Anderson, M.D., 120 W. McKenzie Road, Suite E, Greenfield, Ind. 46140.

FOR SALE during coming year: 40-year general medicine and surgery practice and handsome, modern office building. Located three blocks from excellent, accredited hospital. This outstanding small city and enterprising area could use internist, surgeon or family practitioner. Reply: Charles Klamer, M.D., 715 MacArthur, Jasper, Ind. 47546—(812) 482-3848.

THINKING ABOUT SELLING your practice? We will analyze your practice and appraise the real estate free of charge with no obligation. (Indiana only.) Offer ends Dec. 15, 1988. Call Roger Wilson, Director of Commercial Services, Century 21 Waterford Group II—1-800-289-0021 or (317) 881-2100.

TERRE HAUTE, INDIANA—Immediate care physicians needed as FT and PT staff in an urgent care outpatient clinic/industrial clinic. Must be able to deal with minor trauma, acute illnesses and injuries and physical exams in all age groups. Contact Ambucare Clinic, 3131 E. Wabash, Terre Haute, Ind. 47803—(812) 232-0201.

FOR SALE: Circadian 2-channel Holter and treadmill. Completely computerized. Ideal for cardiologist, rehab medicine or sports medicine. Call Schuyler K. Geller, M.D.—(812) 232-0201 or write to Primary Care Specialist, 3135 E. Wabash, Terre Haute, Ind. 47803.

FAMILY PRACTICE FOR SALE—Small town, high income. Hospital in town, OB/ER/ optional. Hospital may assist financially. Chicago 90 minutes. South Bend 60 minutes. Reply: P.O. Box 93, Valparaiso, Ind. 46384.

NEUROLOGY—SEI Health Services is seeking two adult neurologists and one pediatric neurologist for a large neurological group in the southeastern United States. Recruiting board-eligible or board-certified physicians. Competitive salary and comprehensive benefit package that includes malpractice insurance and relocation assistance. Clinical experience in EEG, EMG, evoked response, doppler ultrasound and sleep disorders preferred. Send resume to: SEI Health Services Division, James Hacker, General Manager, 7725 Little Ave., Charlotte, N.C. 28226 or call (704) 542-7100.

INDIANAPOLIS, INDIANA—MetroHealth, a division of Methodist Hospital, is seeking board certified or board eligible physicians in internal medicine, family medicine and dermatology (part-time position). MetroHealth, an established multi-specialty physician group, offers an excellent blend of practice and lifestyle, professional liability and competitive salary and benefits. Please contact: Maurice Kaufman, M.D., MetroHealth, P.O. Box 1367, Indianapolis, Indiana 46206—(317) 929-2713.

EMERGENCY PHYSICIAN WANTED—Emergency medicine group at St. John's Hospital in Anderson seeking a career-oriented emergency physician for full-time practice. Attractive compensation, excellent facility. Contact: Phillip Pinegar, M.D., 908 Oakden Road, Muncie, Indiana 47304—(317) 284-2605.

FAMILY PRACTICE OPPORTUNITY—BC/BE; North Central Indiana; flexible ER schedule for fully accredited county hospital in return for exceptional income, opportunity to set up own zero overhead practice, comprehensive benefits with all factors negotiable to meet specific practitioner needs. Send CV or contact collect: James Wyatt, Corporate Staffing Resources, 420 South Fourth Street, Elkhart, IN 46516, (219) 522-2396.

Commercial announcements are published as a service to members of the Indiana State Medical Association. Only ads considered to be of advantage to members will be accepted. Advertisements of a truly commercial nature (e.g., firms selling brand products, services, etc.) will be considered for display advertising.

All orders must be in writing and will automatically be set in regular classified type. Box numbers are not available.

Charges:

Indiana physicians	25¢/word (\$5 min)
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Address: INDIANA MEDICINE, 3935 N. Meridian St., Indianapolis, Ind. 46208.

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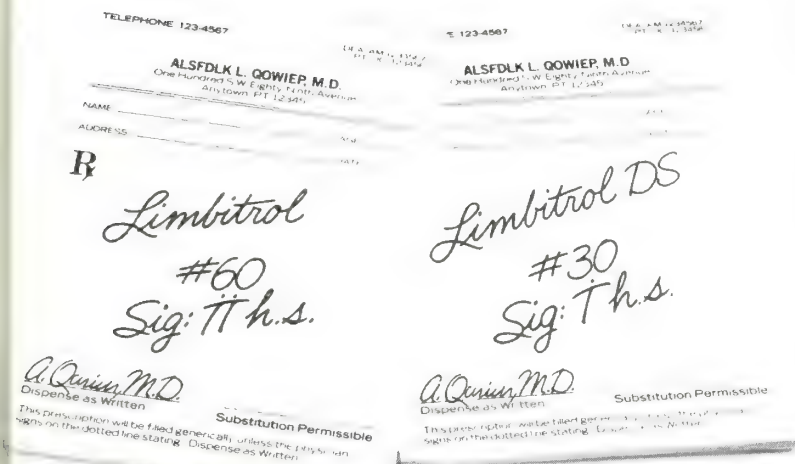
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Warnings: Use with caution in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur when used with anticholinergics. Closely supervise cardiovascular patients. Arrhythmias, sinus tachycardia, prolongation of conduction time, myocardial infarction and stroke reported with tricyclic antidepressants, especially in high doses. Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

Usage in Pregnancy: Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations. Consider possibility of pregnancy when instituting therapy.

Withdrawal symptoms of the barbiturate type have occurred after discontinuation of benzodiazepines (see Drug Abuse and Dependence).

Precautions: Use cautiously in patients with a history of seizures, in hyperthyroid patients, those on thyroid medication, patients with impaired renal or hepatic function. Because of suicidal ideation in depressed patients, do not permit easy access to large quantities of drug. Periodic liver function tests and blood counts recommended during prolonged treatment. Amitriptyline may block action of guanethidine or similar antihypertensives. When tricyclic antidepressants are used concomitantly with cimetidine (Tagamet), clinically significant effects have been reported involving delayed elimination and increasing steady-state concentrations of the tricyclic drugs. Use of Limbitrol with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Should not be taken during the nursing period or by children under 12. In elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects. Inform patients to consult physician before increasing dose or abruptly discontinuing this drug.

Adverse Reactions: Most frequent: drowsiness, dry mouth, constipation, blurred vision, dizziness, bloating. Less frequent: vivid dreams, impotence, tremor, confusion, nasal congestion. Rare: granulocytopenia, jaundice, hepatic dysfunction. Others: many symptoms associated with depression including anorexia, fatigue, weakness, restlessness, lethargy.

Adverse reactions not reported with Limbitrol but reported with one or both components or closely related drugs: **Cardiovascular:** Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke. **Psychiatric:** Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania, increased or decreased libido. **Neurologic:** Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extra pyramidal symptoms, syncope, changes in EEG patterns. **Anticholinergic:** Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract. **Allergic:** Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus. **Hematologic:** Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia. **Gastrointestinal:** Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue. **Endocrine:** Testicular swelling, gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion. **Other:** Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

Drug Abuse and Dependence: Withdrawal symptoms similar to those noted with barbiturates and alcohol have occurred following abrupt discontinuance of chlordiazepoxide; more severe seen after excessive doses over extended periods; milder after taking continuously at therapeutic levels for several months. Withdrawal symptoms also reported with abrupt amitriptyline discontinuation. Therefore, after extended therapy, avoid abrupt discontinuation and taper dosage. Carefully supervise addiction-prone individuals because of predisposition to habituation and dependence.

Overdosage: Immediately hospitalize patient. Treat symptomatically and supportively. I.V. administration of 1 to 3 mg physostigmine salicylate may reverse symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

How Supplied: Double strength (DS) Tablets, white, film-coated, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt), and Tablets, blue, film-coated, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)—bottles of 100 and 500; Tel-E-Dose[®] packages of 100; Prescription Paks of 50.



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In the depressed and anxious patient

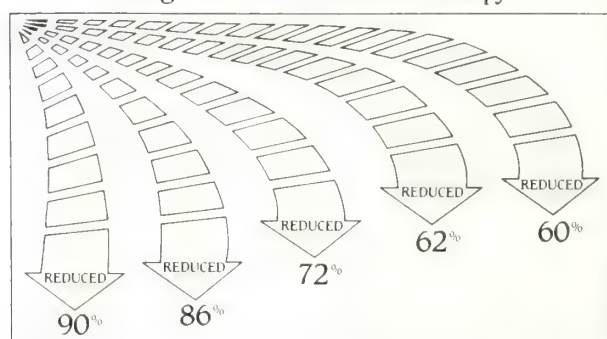
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- ➡ 74% of patients experienced improved sleep after the first *h.s.* dose¹
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*Patients often presented with more than one somatic symptom.

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NO. 12

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ABOUT THE COVER

The Indiana Statehouse, which recently underwent an \$11 million restoration, soon will be the scene of much activity. Legislators and lobbyists will gather in January as the next session of the Indiana General Assembly begins. Information on how ISMA members can serve as a Key Contact in the legislative process is found in this issue.—PHOTO PROVIDED BY COOLER GROUP, INC. ARCHITECTS

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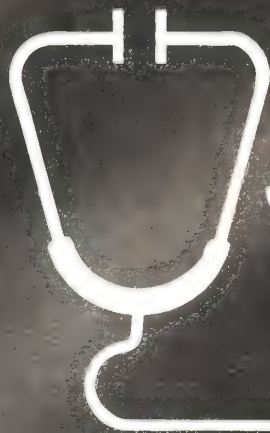
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STETHOSCOPE

EXAMINING STATE & NATIONAL MEDICAL ISSUES

The AMA gathered data under the Harvard resource-based relative value scale and used it in a draft scenario of a budget neutral, geographic practice cost index. The study indicated what impact an RBRVS could have on physician reimbursement under Medicare.

The copyrighted study by the AMA Center for Health Policy Research showed 50 percent of physicians can expect increased Medicare payments under an RBRVS. Twenty-five percent can expect their payments to be unchanged. The remaining 25 percent can expect to lose money. Those specialties expected to lose the most include thoracic surgery and ophthalmology. Family practice, internal medicine and general practice could receive an average \$2,000 to \$5,000 increase in reimbursement, according to the AMA's simulation on the Harvard RBRVS data.

Geographically, Indiana in the rural Midwest can expect two to five percent more in Medicare reimbursement, but New York and California and Michigan are expected to be big losers.

RBRVS data is unrefined and researchers say there may be a 15 to 20 percent error factor. Four suggestions were recommended for improving the study's accuracy and making an RBRVS more equitable:

- More accurate practice cost estimates;
- Unbundling of CPT 4 codes for office and hospital visits;
- Further study of cross linking of specialty services, and
- Further study of pre- and post-service estimates.

Practicing physicians need to be aware of two separate surveys in which they may be asked to participate:

1) The Physician Payment Review Commission will conduct a survey of 6,000 physicians' practice costs, Medicare assignment patterns, the use of certain diagnostic services and the allocation of physicians' time. The data are to be used to develop recommendations on Medicare reimbursement and other issues and will be reflected in the PPRC's 1989 report to Congress.

2) The AMA's Council on Medical Service will conduct a survey in an effort to determine how third-party payor "prior authorization" and retrospective utilization claims review programs impact upon medical practice and clinical decision making.

The American Association of Retired Persons testified before the PPRC in November that mandatory assignment "must be an integral part" of any new fee schedule based on an RBRVS. Dr. Alan R. Nelson, M.D., AMA president-elect, reiterated the AMA's opposition to mandatory assignment. "There is nothing about an RBRVS that makes limitations on balance billing appropriate," he said.

IN INDIANA...

Observers say that the historical even split between Republicans and Democrats in the Indiana House of Representatives could create a legislative logjam during this long session of the General Assembly.

Some of the issues expected to come up are: use of expert witnesses, review of physicians' fees, allied health licensure/certification, health care cost containment, and health care for the medically underserved. Add to the list several drug issues, some of which ISMA has encountered before: physician dispensing, therapeutic substitution, triplicate prescriptions, drug education/intervention and prescribing by psychologists.

A whole host of policy questions on AIDS also may be considered: informed consent, testing/counseling, contact tracing, delivery of care, education, emergency workers exposure and duty to warn issues could be on the legislative agenda.

While ISMA's Department of Government Relations tracks these issues, they will also pursue at least two public policy issues--the Tobacco-Free Society and SOBRA initiatives. Both issues have been approved by the ISMA House of Delegates.

The 1989 session will mark the third session of the General Assembly that ISMA and the Indiana Coalition for a Tobacco-Free Society have sought sponsors for tobacco-related bills. This year, ISMA will seek legislation to prohibit the sale of tobacco products in vending machines; to prohibit smoking in hospitals and health facilities; and to require non-smoking areas in all public places.

Indiana's infant mortality rate is 11.2/1,000 live births. In 1986, more than 8,500 pregnant women in this state received insufficient or no prenatal care.

The Institute of Medicine found that for every \$1 in prenatal care, \$3.30 is saved in the cost for neonatal care of low birthweight babies. A Blue Cross/Blue Shield of Indiana study showed that a low birthweight baby costs Medicaid \$15,000 during its first year of life. Lifetime medical costs for low birthweight can reach \$400,000.

The Indiana General Assembly opted into the SOBRA program last year and expanded Medicaid coverage to pregnant women and infants in families at or below 50 percent of the federal poverty level. Even with this important first step, Indiana is one of only 13 states that is not expected to meet the Surgeon General's 1990 objective to reduce the infant mortality rate to 9/1,000 live births.

ISMA will seek to have legislation introduced to expand the Medicaid program to cover all pregnant women and their infants who have family incomes at or below 150 percent of the federal poverty level. The increase is an attempt to improve the infant survival rate through prenatal care rather than through the more expensive neonatal intensive care.

This One's for You, Marty

IT WAS THROUGH the pages of INDIANA MEDICINE that most ISMA members knew Martin T. Badger. For 11 years, Marty was the man behind the scenes of this monthly scientific journal—the managing editor. While Dr. Frank Ramsey, as editor, solicited the scientific articles, it was Marty's responsibility to copy edit, write, proofread, design and lay out INDIANA MEDICINE. Single-handedly, month after month, Marty produced what has become one of the largest scientific journals published by a state medical association. Martin died Oct. 15, at his home in Indianapolis after battling cancer for the past year. He was 48. This issue of INDIANA MEDICINE is dedicated to his memory.

Marty honed his skills as a journalist while serving as a sergeant in the U.S. Army. He worked on an Army newspaper during a tour of duty in Vietnam. He also taught journalism at the Defense Information School of Fort Benjamin Harrison.

Most editors share common traits. Marty was no exception. They must be organized, efficient and excellent writers. They possess hard core, tough-as-nails exteriors and are prone to occasional outbursts of cynicism. Combine these requirements for successful editing with a dry, offbeat sense of humor, and you have an accurate description of Martin Badger.

His coworkers discovered early on that he was a pseudo curmudgeon. The one-liners he growled were pretense designed to throw everyone off track. Quietly, in the background, he was lending an ear or offering assistance or encouragement.

Unfortunately, it is often the people who do their jobs effectively, without fanfare, who never get the recognition they deserve. Indeed, just as unfortunately, no one ever realizes the amount of work involved until something unexpected happens. That was



Martin T. Badger

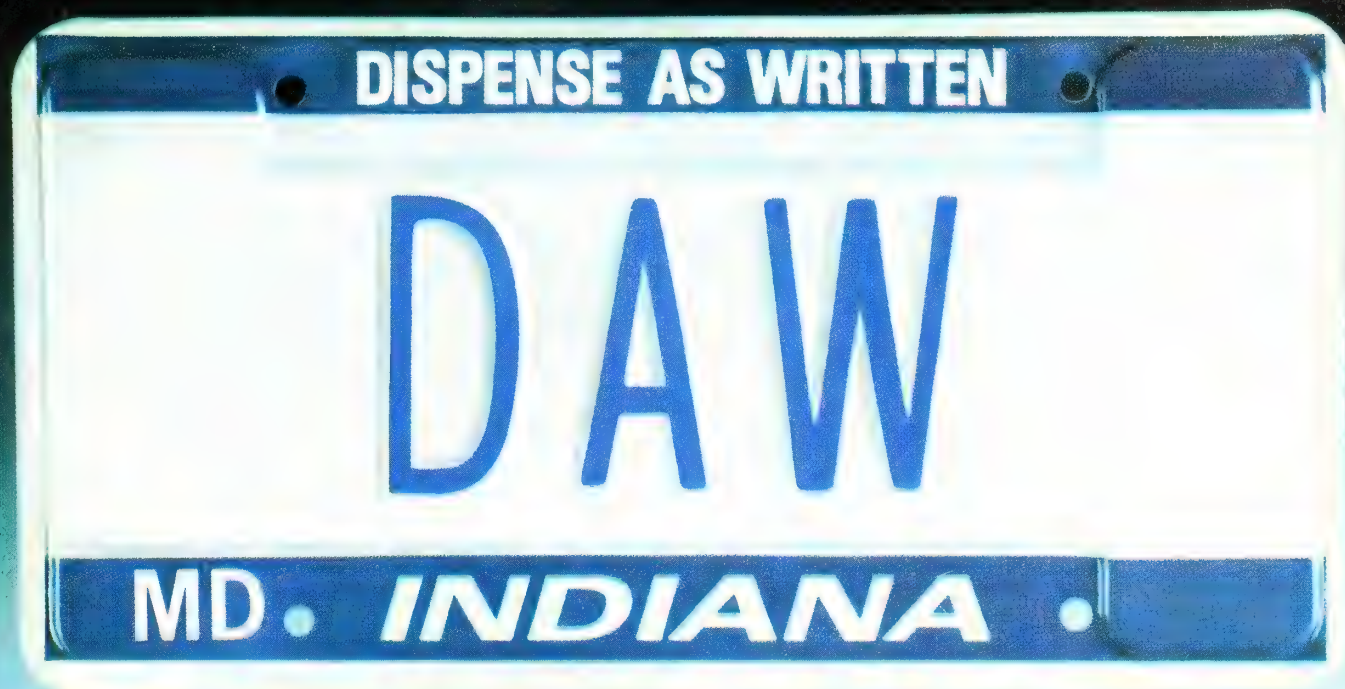
the case with Marty. He made a tremendously time-consuming, exacting job look easy.

Marty Badger learned he had cancer in October 1987. After five weeks of radiation therapy, the tumor appeared to be in remission. Throughout his radiation treatment, Marty, without his doctor's knowledge, continued to work almost every day. During his periodic check-ups following the treatments, things seemed to be fine. Then, in May, he learned the cancer was active once again. Marty cut back his hours to part-time, but he was always willing to consult with the staff over the phone, answering questions and making suggestions. He continued to help proofread scientific articles.

Marty took his disability leave in June. When he felt up to it, he trekked into the office to see how things were going. In late summer complications developed, but Marty had persevered long enough to welcome two grandchildren into the world and a son back home from Germany.

Martin Badger will be remembered for the high editorial standards he set. But, more importantly, he'll be remembered as a kind and decent man.

He is survived by his wife, Cheryl; four sons, Ken, Scott, Randy and Matt; a daughter, Dawn McCauley; his mother, Mary Badger; a brother, Joseph; a sister, Sandra Welch; and five grandchildren. — Adele Lash, ISMA Director of Communications



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MEDICAL MUSEUM NOTES

CHARLES A. BONSETT, M.D., Indianapolis



THREE-QUARTERS OF a century ago, a local writer using the pen name of Dr. Oldfish wrote a weekly column about people and events of a half century earlier. The identity of Dr. Oldfish remains unknown to me. Whether or not he was a physician is also unknown; however, he knew or knew about many Indiana physicians and cited their interesting anecdotes in his columns. Here, for example, is an edited version of a 1914 article on Richard J. Gatling:

"A few, a very few of the last of our oldest citizens ... may remember a sign that decorated a small building in the first square of Meridian Street, west side, south of Washington Street,¹ before the Civil War bearing these words:

R.J. GATLING & BROTHER

Agents for the selling and locating of land warrants

"... It was in that little land agency that the first rapid-fire machine gun was thought-out, a gun that, named after its inventor, was called the Gatling.

"Dr. Richard J. Gatling—he was entitled to the name of doctor, as he graduated from the Ohio Medical College²—in his leisure moments had invented a number of useful appliances, chiefly agricultural implements, among them a steam plow, and began thinking about a rapid-fire gun when the Civil War broke out. In 1862, he had succeeded in perfecting the gun ... The first perfected gun was made for the doctor by Otis Frink, a mechanical genius of this city (Indianapolis), and the first trial of the gun was made on the banks of White River, a short distance below the city ...

"Everyone thought the doctor had a fortune at the end of his fingers and that his invention would hasten to finish the war then in progress, but the war was over before the federal authorities consented to the official adoption of this weapon. Within ten years, it came to be adopted by almost



every nation in Europe. General John Love went abroad to show the merits of this new destroyer. Some were sold to a number of nations. France bought a few, enough to furnish patterns from which she afterwards made the mitrailleuse (a multibarreled machine gun). The good doctor's experience was much like that of the later experience of an Indiana firm of wagon makers who sold forty—I believe it was forty—of their commodious, well-constructed vehicles to Japan and, congratulating themselves on this auspicious opening of trade, waited further orders. No orders came. The clever little brown men of the sunrise kingdom, taking these wagons as models, copied them to the minutest detail, even marking them with a stencil, setting forth the name of the South Bend company that furnished the originals.

"The Gatling gun was brought into use once in Indiana—not that it was fired, for it was effective, though silent. It was in a town in the northwest corner of the state where a mob had assembled at a railroad crossing, a mob that meant mischief. Troops were sent from this city and General Dan

Macauley was in command. A Gatling gun appeared on a platform car. In a brief address General Dan called attention to the little death angel on the car and told the mob that this was the famous Gatling gun. A Gatling gun! They had heard of it, and the subsequent proceedings interested them no more. The hundreds of wrathful rioters incontinently fled and in a remarkably short time, the most powerful field glasses failed to discover a single one of them along the distant horizon.

"Dr. Gatling died in New York City a little more than eleven years ago, (1903). No great while before this, I talked with him concerning his invention. He was a kindly-hearted gentleman; no one could be kindlier; no one could be more considerate of the feelings of others. He was, in the fullest sense, a philanthropist and justified the beneficence of his invention by the claim that it would, by its very efficiency ... make nations more loth to enter war, and by rendering wars short, severe, and decisive, prove a genuine blessing to mankind.

"The doctor's surmise has proved incorrect."

It is difficult to understand how Dr. Gatling could be accused (along with Dr. Bowles³ of French Lick) of being a member of the traitorous Knights of the Golden Circle.⁴ Dr. Oldfish makes no mention of this topic, which will be the subject for a future page of Medical Museum Notes.

NOTES

1. The present site of L.S. Ayres and Co and the same block where Dr. John Bobbs would later perform the world's first gall bladder surgery.
2. In 1850. Earlier he had attended the Indiana Medical College at LaPorte in 1847-48.
3. See Medical Museum Notes in the April 1984 issue of INDIANA MEDICINE and the September 1978 issue of THE JOURNAL OF THE INDIANA STATE MEDICAL ASSOCIATION.
4. A Northern secret society of Southern sympathizers, who plotted much mischief and performed a little.



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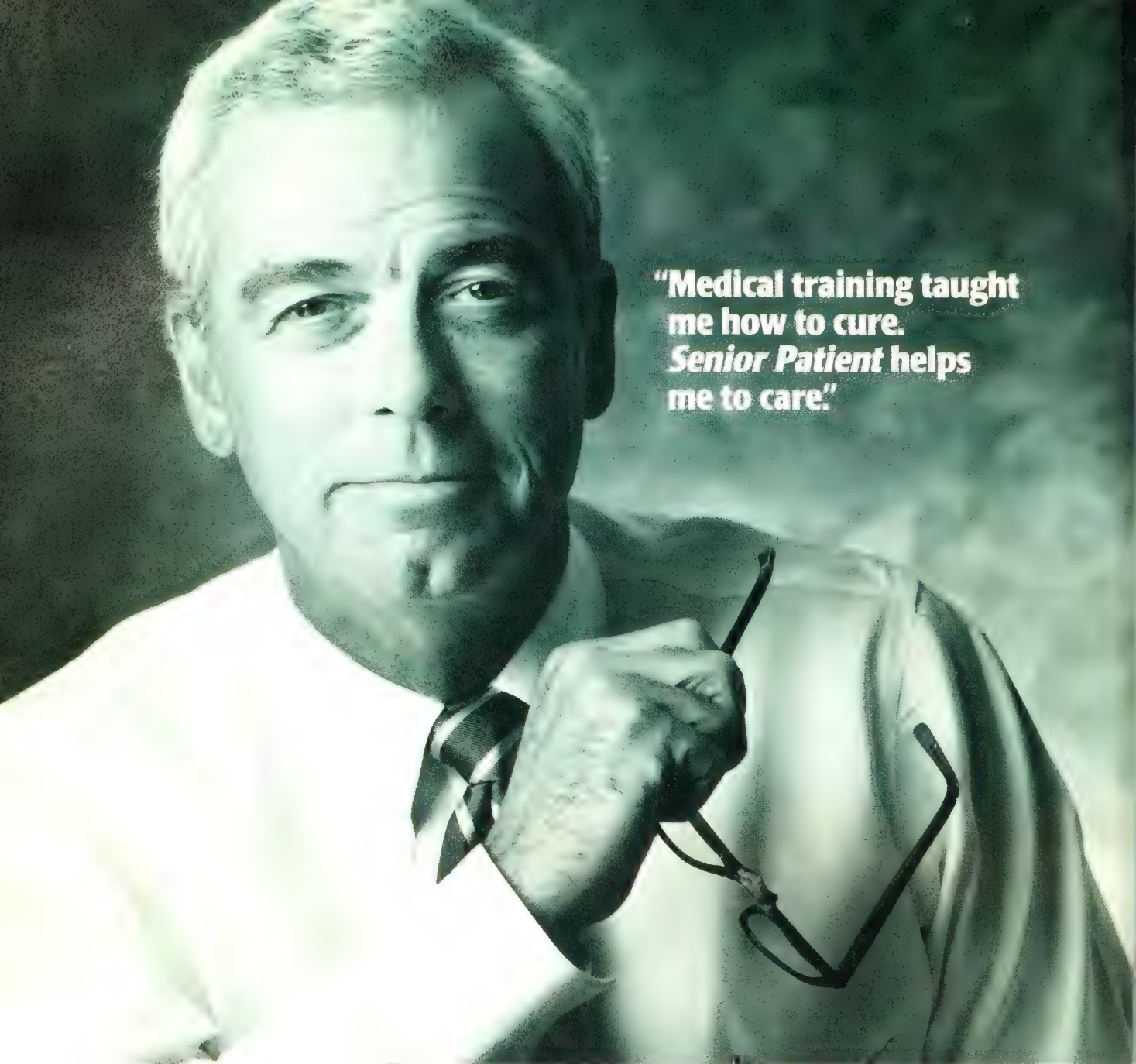
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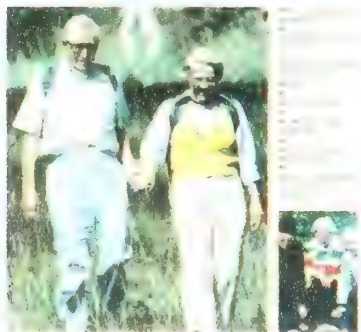


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[†]Due to susceptible strains of indicated pathogens. See indicated organisms in Brief Summary.

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BRIEF SUMMARY

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INDICATIONS AND USAGE

Cipro[®] is indicated for the treatment of infections caused by susceptible strains of the designated microorganisms in the conditions listed below

Lower Respiratory Infections caused by *Escherichia coli*, *Klebsiella pneumoniae*, *Enterobacter cloacae*, *Proteus mirabilis*, *Pseudomonas aeruginosa*, *Haemophilus influenzae*, *Haemophilus parainfluenzae*, and *Streptococcus pneumoniae*

Skin and Skin Structure Infections caused by *Escherichia coli*, *Klebsiella pneumoniae*, *Enterobacter cloacae*, *Proteus mirabilis*, *Proteus vulgaris*, *Providencia stuartii*, *Morganella morganii*, *Citrobacter freundii*, *Pseudomonas aeruginosa*, *Staphylococcus aureus* (penicillinase and nonpenicillinase-producing strains), *Staphylococcus epidermidis*, and *Streptococcus pyogenes*

Bone and Joint Infections caused by *Enterobacter cloacae*, *Serratia marcescens*, and *Pseudomonas aeruginosa*

Urinary Tract Infections caused by *Escherichia coli*, *Klebsiella pneumoniae*, *Enterobacter cloacae*, *Serratia marcescens*, *Proteus mirabilis*, *Providencia rettgeri*, *Morganella morganii*, *Citrobacter diversus*, *Citrobacter freundii*, *Pseudomonas aeruginosa*, *Staphylococcus epidermidis*, and *Streptococcus faecalis*

Infectious Diarrhea caused by *Escherichia coli* (enterotoxigenic strains), *Campylobacter jejuni*, *Shigella flexneri*, and *Shigella sonnei** when antibacterial therapy is indicated

*Efficacy for this organism in this organ system was studied in fewer than 10 infections

Appropriate culture and susceptibility tests should be performed before treatment in order to isolate and identify organisms causing infection and to determine their susceptibility to ciprofloxacin. Therapy with Cipro[®] may be initiated before results of these tests are known, once results become available appropriate therapy should be continued. As with other drugs, some strains of *Pseudomonas aeruginosa* may develop resistance fairly rapidly during treatment with ciprofloxacin. Culture and susceptibility testing performed periodically during therapy will provide information not only on the therapeutic effect of the antimicrobial agent but also on the possible emergence of bacterial resistance

CONTRAINDICATIONS

A history of hypersensitivity to ciprofloxacin is a contraindication to its use. A history of hypersensitivity to other quinolones may also contraindicate the use of ciprofloxacin

WARNINGS

CIPROFLOXACIN SHOULD NOT BE USED IN CHILDREN, ADOLESCENTS, OR PREGNANT WOMEN. The oral administration of ciprofloxacin caused lameness in immature dogs. Histopathological examination of the weight-bearing joints of these dogs revealed permanent lesions of the cartilage. Related drugs such as nalidixic acid, cinoxacin, and norfloxacin also produced erosions of cartilage of weight-bearing joints and other signs of arthropathy in immature animals of various species (SEE ANIMAL PHARMACOLOGY SECTION IN FULL PRESCRIBING INFORMATION)

PRECAUTIONS

General: As with other quinolones, ciprofloxacin may cause central nervous system (CNS) stimulation, which may lead to tremor, restlessness, lightheadedness, confusion, and very rarely to hallucinations or convulsive seizures. Therefore, ciprofloxacin should be used with caution in patients with known or suspected CNS disorders, such as severe cerebral arteriosclerosis or epilepsy, or other factors which predispose to seizures (SEE ADVERSE REACTIONS)

Quinolones may also cause anaphylactic reactions and cardiovascular collapse. Anaphylactic reactions may require epinephrine and other emergency measures

Crystals of ciprofloxacin have been observed rarely in the urine of human subjects but more frequently in the urine of laboratory animals. Crystalluria related to ciprofloxacin has been reported only rarely in man, because human urine is usually acidic. Patients receiving ciprofloxacin should be well hydrated, and alkalinity of the urine should be avoided. The recommended daily dose should not be exceeded. Alteration of the dosage regimen is necessary for patients with impairment of renal function (SEE DOSAGE AND ADMINISTRATION SECTION IN FULL PRESCRIBING INFORMATION)

Drug Interactions: Concurrent administration of ciprofloxacin with theophylline may lead to elevated plasma concentrations of theophylline and prolongation of its elimination half-life. This may result in increased risk of theophylline-related adverse reactions. If concomitant use cannot be avoided, plasma levels of theophylline should be monitored and dosage adjustments made as appropriate

Antacids containing magnesium hydroxide or aluminum hydroxide may interfere with the absorption of ciprofloxacin, resulting in serum and urine levels lower than desired; concurrent administration of these agents with ciprofloxacin should be avoided

Probenecid interferes with the renal tubular secretion of ciprofloxacin and produces an increase in the level of ciprofloxacin in the serum. This should be considered if patients are receiving both drugs concomitantly

As with other broad spectrum antibiotics, prolonged use of ciprofloxacin may result in overgrowth of nonsusceptible organisms. Repeated evaluation of the patient's condition and microbial susceptibility testing is essential. If superinfection occurs during therapy, appropriate measures should be taken

Information for Patients: Patients should be advised that ciprofloxacin may be taken with or without meals. The preferred time of dosing is two hours after a meal. Patients should also be advised to drink fluids liberally and not take antacids containing magnesium or aluminum concomitantly or within two hours after dosing. Ciprofloxacin may cause dizziness or lightheadedness; therefore patients should know how they react to this drug before they operate an automobile or machinery or engage in activities requiring mental alertness or coordination

Carcinogenesis, Mutagenesis, Impairment of Fertility: Eight *in vitro* mutagenicity tests have been conducted with ciprofloxacin and the test results are listed below

- Salmonella/Microsome Test (Negative)
- E. coli* DNA Repair Assay (Negative)
- Mouse Lymphoma Cell Forward Mutation Assay (Positive)
- Chinese Hamster V₇₉ Cell HGPRT Test (Negative)
- Syrian Hamster Embryo Cell Transformation Assay (Negative)
- Saccharomyces cerevisiae* Point Mutation Assay (Negative)
- Saccharomyces cerevisiae* Mitotic Crossover and Gene Conversion Assay (Negative)
- Rat Hepatocyte DNA Repair Assay (Positive)

Thus, two of the eight tests were positive, but the following three *in vivo* test systems gave negative results

- Rat Hepatocyte DNA Repair Assay
- Micronucleus Test (Mice)
- Dominant Lethal Test (Mice)

Long term carcinogenicity studies in animals have not yet been completed

Pregnancy - Pregnancy Category C: Reproduction studies have been performed in rats and mice at doses up to six times the usual daily human dose and have revealed no evidence of impaired fertility or harm to the fetus due to ciprofloxacin. In rabbits, as with most antimicrobial agents, ciprofloxacin (30 and 100 mg/kg orally) produced gastrointestinal disturbances resulting in maternal weight loss and an increased incidence of abortion. No teratogenicity was observed at either dose. After intravenous administration, at doses up to 20 mg/kg, no maternal toxicity was produced, and no embryotoxicity or teratogenicity was observed. There are, however, no adequate and well-controlled studies in pregnant women. SINCE CIPROFLOXACIN, LIKE OTHER DRUGS IN ITS CLASS, CAUSES ARTHROPATHY IN IMMATURE ANIMALS, IT SHOULD NOT BE USED IN PREGNANT WOMEN (SEE WARNINGS)

CONVENIENT B.I.D. DOSAGE

Recommended dosage schedule

Infection Site*	Severity of Infection	Dosage
Respiratory Tract*	Mild/Moderate	500 mg q12h
Bone and Joint*		
Skin/Skin Structure*	Severe/Complicated	750 mg q12h
Urinary Tract*	Mild/Moderate	250 mg q12h
	Severe/Complicated	500 mg q12h
Infectious Diarrhea*	Mild/Moderate/Severe	500 mg q12h

Nursing Mothers: It is not known whether ciprofloxacin is excreted in human milk, however, it is known that ciprofloxacin is excreted in the milk of lactating rats and that other drugs of this class are excreted in human milk. Because of this, and because of the potential for serious adverse reactions from ciprofloxacin in nursing infants, a decision should be made to discontinue nursing or to discontinue the drug, taking into account the importance of the drug to the mother

Pediatric Use: Ciprofloxacin should not be used in children because it causes arthropathy in immature animals (SEE WARNINGS)

ADVERSE REACTIONS

Ciprofloxacin is generally well tolerated. During clinical investigation, 2,799 patients received 2,868 courses of the drug. Adverse events that were considered likely to be drug related occurred in 7.3% of courses, possibly related in 9.2%, and remotely related in 3.0%. Ciprofloxacin was discontinued because of an adverse event in 3.5% of courses, primarily involving the gastrointestinal system (1.5%), skin (0.6%), and central nervous system (0.4%)

The most frequently reported events, drug related or not, were nausea (5.2%), diarrhea (2.3%), vomiting (2.0%), abdominal pain/discomfort (1.7%), headache (1.2%), restlessness (1.1%), and rash (1.1%)

Additional events that occurred in less than 1% of ciprofloxacin courses are listed below. Those typical of quinolones are italicized

GASTROINTESTINAL (See above), painful oral mucosa, oral candidiasis, dysphagia, intestinal perforation, gastrointestinal bleeding

CENTRAL NERVOUS SYSTEM (See above), dizziness, lightheadedness, insomnia, nightmares, hallucinations, manic reaction, irritability, tremor, ataxia, convulsive seizures, lethargy, drowsiness, weakness, malaise, anorexia, phobia, depersonalization, depression, paresthesia

SKIN/HYPERSENSITIVITY (See above), pruritus, urticaria, photosensitivity, flushing, fever, chills, angioedema, edema of the face, neck, lips, conjunctivae or hands, cutaneous candidiasis, hyperpigmentation, erythema nodosum

Allergic reactions ranging from urticaria to anaphylactic reactions have been reported

SPECIAL SENSES blurred vision, disturbed vision, (change in color perception, overbrightness of lights), decreased visual acuity, diplopia, eye pain, tinnitus, bad taste

MUSCULOSKELETAL joint or back pain, joint stiffness, achiness, neck or chest pain, flare-up of gout

RENAL/UROGENITAL interstitial nephritis, renal failure, polyuria, urinary retention, urethral bleeding, vaginitis, acidosis

CARDIOVASCULAR palpitations, atrial flutter, ventricular ectopy, syncope, hypertension, angina pectoris, myocardial infarction, cardiopulmonary arrest, cerebral thrombosis

RESPIRATORY epistaxis, laryngeal or pulmonary edema, hiccup, hemoptysis, dyspnea, bronchospasm, pulmonary embolism

Most of these events were described as only mild or moderate in severity, abated soon after the drug was discontinued, and required no treatment

In several instances, nausea, vomiting, tremor, restlessness, agitation, or palpitations were judged by investigators to be related to elevated plasma levels of theophylline possibly as a result of a drug interaction with ciprofloxacin

Adverse Laboratory Changes: Changes in laboratory parameters listed as adverse events without regard to drug relationship

Hepatic - Elevations of ALT (SGPT) (1.9%), AST (SGOT) (1.7%), alkaline phosphatase (0.8%), LDH (0.4%), serum bilirubin (0.3%)

Hematologic - eosinophilia (0.6%), leukopenia (0.4%), decreased blood platelets (0.1%), elevated blood platelets (0.1%), pancytopenia (0.1%)

Renal - Elevations of Serum creatinine (1.1%), BUN (0.9%)

CRYSTALLURIA, CYLINDRURIA, AND HEMATURIA HAVE BEEN REPORTED

Other changes occurring in less than 0.1% of courses were: Elevation of serum gamma-glutamyl transferase, elevation of serum amylase, reduction in blood glucose, elevated uric acid, decrease in hemoglobin, anemia, bleeding diathesis, increase in blood monocytes, and leukocytosis

OVERDOSAGE

Information on overdosage in humans is not available. In the event of acute overdosage, the stomach should be emptied by inducing vomiting or by gastric lavage. The patient should be carefully observed and given supportive treatment. Adequate hydration must be maintained. In the event of serious toxic reactions from overdosage, hemodialysis or peritoneal dialysis may aid in the removal of ciprofloxacin from the body, particularly if renal function is compromised

DOSAGE AND ADMINISTRATION

The usual adult dosage for patients with urinary tract infections is 250 mg every 12 hours. For patients with complicated infections caused by organisms not highly susceptible, 500 mg may be administered every 12 hours.

Respiratory tract infections, skin and skin structure infections, and bone and joint infections may be treated with 500 mg every 12 hours. For more severe or complicated infections, a dosage of 750 mg may be given every 12 hours.

The recommended dosage for infectious diarrhea is 500 mg every 12 hours

In patients with renal impairment, some modification of dosage is recommended (SEE DOSAGE AND ADMINISTRATION SECTION IN FULL PRESCRIBING INFORMATION)

HOW SUPPLIED

Cipro[®] (ciprofloxacin HCl/Miles) is available as tablets of 250 mg, 500 mg, and 750 mg in bottles of 50, and in Unit-Dose packages of 100 (SEE FULL PRESCRIBING INFORMATION FOR COMPLETE INFORMATION)

*Due to susceptible strains of indicated pathogens.
See indicated organisms in Prescribing Information.

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WHAT'S NEW?

Professional Satellite Imaging, Inc. has developed the first satellite-based medical imaging system, offering rapid and efficient x-ray transmission between radiologists and mobile van units. Portable medical x-ray units are transported inside trucks equipped with high resolution cameras and manned by certified and registered x-ray technicians. After the x-ray image is taken, the film is transmitted via satellite to the company's base for examination and diagnosis by staff radiologists. The radiologists' report, obtained within about 10 minutes, is then transmitted back to the mobile unit. PSI, currently with three mobile units in southern California, plans to expand into 20 cities nationwide within five years.

Hewlett-Packard has announced a fetal-trace transmission system for long-distance consultation and remote fetal monitoring. The new system allows clinicians to send and receive high-quality fetal-heart-rate traces over the telephone. The system is designed to make long-distance consultation and remote fetal monitoring timely and convenient.

Hewlett-Packard has released three echocardiography teleconferences on videocassette. These videos cover all segments of ultrasound technology, including Doppler and Doppler color flow imaging.

The **United States Pharmacopeial Convention** has announced the title of a new Volume III to be added to *USP DI* for the 1989 edition. This third volume, which is titled *Approved Drug Products and Legal Requirements*, will contain federal and state requirements about the dispensing situation, including selected portions of the federal Controlled Substance Act Regulations, the federal Poison Prevention Packaging Act and Regulations, the federal Food, Drug and Cosmetic Act requirements and the FDA's current Good Manufacturing Practice Regulations for Finished Pharmaceuticals.

News of what is new in the medical supply industry is composed of abstracts from news releases by book publishers and manufacturers of pharmaceuticals, clinical laboratory supplies, instruments and surgical appliances. Each item is published as news and does not necessarily constitute an endorsement of a product or recommendation for its use by **INDIANA MEDICINE** or by the Indiana State Medical Association.

Hewlett Packard has added storage, retrieval and archiving capabilities to its obstetrical information-management system (OBMS), first introduced in 1986. The new HP 80235A OBMS addresses several major obstetrical concerns, including accurate documentation, lower data-storage costs, improved patient care and reduced paperwork.

Healthcare Network, Inc. has developed a new AIDS video titled "AIDS: Alcohol and Drugs—Perceptions versus Reality" for the medical community. It addresses the critical roles that alcohol and drug treatment providers can play in treating patients who have been exposed to the HIV virus and those who have been diagnosed with AIDS. For additional information, call the network at 1-800-356-7787.

Triumph Bio-Medical International has a new Triple-Duty Geri-Jacket. In bed, the crisscross system provides upper body support and guards against falls. The jacket allows freedom of movement and provides comfort. In a wheelchair, it secures the safety of non-ambulatory patients and prevents slumping. A built-in transfer gait belt offers ambulatory training protection when walking and assists in transfer from bed to wheelchair. The jacket, which is available in three sizes, is made with reinforced double parallel stitching, nylon strapping, easy-to-use zip-down fastener and padded back.

Hoffmann-La Roche has announced it will pay for contraceptive counseling and initial pregnancy testing performed by a consulting physician for any woman using Accutane® (isotretinoin/Roche), a drug used to treat the most severe form of cystic acne. Roche also will provide physicians with a consent form for patients to sign before Accutane is prescribed and will set strict criteria for prescribing Accutane. The FDA has approved the revised package insert and patient consent form.

Abbott Laboratories reports that as the use of thrombolytics in treating heart attacks has increased, so has the controversy surrounding the safety of efficacy of thrombolytic agents. The German Activator Urokinase Study, recently published in the *Journal of the American College of Cardiology*, compares urokinase to tissue plasminogen activator and finds no difference between the two, at least when used for treatment of heart attacks. In addition, the reformation of clots during the first 24 hours may be less frequent after urokinase.

Milani Foods manufactures original Diafoods Thick-it and new Diafoods Thick-it 2, unique instant food and beverage thickeners that provide better nutrition for individuals suffering from dysphagia, stroke or swallowing impairments. The low-sodium products come in an easy-to-use granulated form that thickens hot or cold, thick or thin liquids to any desired consistency quickly and easily.

Allscripts Pharmaceuticals has added a removable patient billing tab to existing dispensing log and patient record tabs. The tab can be used as a patient receipt or record for insurance claims. A triangular arrow on the new label designates a point where all tabs can be removed for their respective record functions. The new label also features larger type, making it easier to read preprinted patient instructions.

Consensus Development

The National Institute of Diabetes and Digestive and Kidney Diseases and the Office of Medical Applications of Research, National Institutes of Health, will conduct a Consensus Development Conference on therapeutic endoscopy and bleeding ulcers. The conference will be March 6-8 at the Warren Grant Magnuson Clinical Center in Bethesda, Md.

Pediatric Trauma

The National Conference on Pediatric Trauma will be Sept. 20 to 23, 1989, at the Towsley Center in Ann Arbor, Mich. The conference, which is sponsored by the Kiwanis Pediatric Trauma Institute, the New England Medical Center and the University of Michigan Medical School, is designed for pediatricians, pediatric surgeons, general surgeons, surgical specialists, emergency physicians and nurses.

For additional information, write or call Debbie DeSmyther, Office of CME, Towsley Center Box 0201, University of Michigan Medical School, Ann Arbor, Mich. 48109-1201—(313) 763-1400.

Family Practice Update

The 13th Annual Midwinter Family Practice Update will be Jan. 29 to Feb. 3 in Harbor Springs, Mich., at the Boyne Highlands Inn. The program will address office prenatal care, insulin-dependent diabetes mellitus and thyroid disease, geriatrics, primary care cardiology, pediatric infectious diseases and flexible sigmoidoscopy.

For additional information or registration forms, contact Betty Phillips, Office of CME, Towsley Center—Box 0201, University of Michigan Medical School, Ann Arbor, Mich., 48109-0201—(313) 763-1400 or 1-800-962-3555.

The *Journal of the American Medical Association* publishes a list of CME courses for the United States twice yearly. The January listing features courses offered from March through August; the July listing features courses offered from September through February.

Indiana University CME

The Indiana University School of Medicine will sponsor the following continuing medical education courses for January, February and March:

Jan. 26-28: Surgical Laser Use: Basics and Specifics, Indiana University School of Medicine, Indianapolis.

Feb. 9: Update in Infectious Diseases, University Place Executive Conference Center and Hotel, Indianapolis.

Feb. 17-18: Winter Meeting, Indiana Chapter, American College of Surgeons, Columbia Club, Indianapolis.

Feb. 20: Multidisciplinary Approach to the Pediatric Hearing-Impaired Population, University Place Executive Conference Center and Hotel, Indianapolis.

March 2: Infectious Diseases, Reid Memorial Hospital, Richmond, Ind.

March 15: Ob/Gyn Update, University Place Executive Conference Center and Hotel, Indianapolis.

March 17: Neurologic Update, University Place Executive Conference Center and Hotel, Indianapolis.

March 18-19: Annual Meeting, Indiana Society of Anesthesiologists and Anesthesia Update, University Place Executive Conference Center and Hotel, Indianapolis.

March 29: Dermatology Update for the Non-Dermatologist, University Place Executive Conference Center and Hotel, Indianapolis.

March 30-31: 1989 Symposium on Mammography and Breast Ultrasound, University Place Executive Conference Center and Hotel, Indianapolis.

For further information, call Melody Dian, assistant director, Continuing Medical Education, (317) 274-8353.

Methodist Hospital CME

Dec. 10: Advanced Ultrasound Course in Vaginal Imaging, Methodist Hospital, Auditorium.

Feb. 22: Worker's Compensation Program for Physicians, Methodist Hospital.

March 10-12: 5th Annual Symposium on SWL: Urinary and Biliary, Westin Hotel, Indianapolis.

For information, call Dixie Estridge, CME coordinator, (317) 929-3733.

Harvard Medical School

The 16th annual Harvard Medical School course on intensive care medicine will be April 17 to 20 at the Cambridge Marriott Hotel.

"Critical Care—From Metabolism to Monoclonals" is the theme of the course.

For more information, write or call Bart Chernow, M.D., Department of Anesthesia, Harvard Medical School, Massachusetts General Hospital, 32 Fruit St., Boston, Mass. 02114—(617) 726-2858.

Rural Health Conference

The 12th Annual National Conference on Rural Health, "Redesigning Rural Health: Blueprints for Success," will be April 30 to May 3 at Bally's Hotel in Reno, Nev. For complete information contact the NRHA at 301 E. Armour Blvd., Suite 420, Kansas City, Mo., 64111—(816) 756-3140.

Microvascular Workshop

"Microvascular Workshop for Otolaryngologists and Head and Neck Reconstructive Surgeons" is the title of a CME course to be conducted by the University of Michigan Medical School Feb. 27 to March 3. Details, including the fees involved, are available from Debbie DeSmyther, Office of CME, Towsley Center, Box 0201, The University of Michigan Medical School, Ann Arbor, Mich. 48109-0201—1-800-962-3555.

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- Comprehensive Major Medical expense protection \$250 Calendar Year Deductible
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As an organization accredited for continuing medical education, the Indiana University School of Medicine certifies that this CME activity meets the criteria for one credit hour in Category 1 for the Physician's Recognition Award of the American Medical Association, provided it is used and completed as designated.

To obtain Category 1 credit for this month's article, complete the quiz on page 1048.



Epidural Abscess: A Review

KAREN L. ROOS, M.D.
Indianapolis

AN EPIDURAL abscess is an infection that develops either outside the dura mater within the spinal canal or in the space between the dura and the inner table of the skull. In this review, spinal and cranial epidural abscess will be discussed separately.

Spinal Epidural Abscess

A spinal epidural abscess is a collection of purulent material outside the dura mater within the spinal canal.¹ The clinical signs of this infection tend to evolve rapidly, over days, from back pain to root pain to paresis followed by paralysis, and require immediate recognition and surgical decompression to prevent permanent paralysis.

The most common location for a spinal epidural abscess is the posterior mid-thoracic region or lower lumbar epidural space. Anterior abscesses are fairly uncommon and usually occur at cervical levels. Abscesses are much more common in the posterior than in the anterior epidural space because the

anterior epidural space is only a potential space. The dura is virtually adherent to the posterior surface of the vertebral bodies and ligaments along the ventral aspect of the spinal canal. In contrast, the posterior epidural space contains a large amount of areolar tissue plus a rich vascular plexus. As there are no anatomical barriers to axial spread of infection in the posterior epidural space, abscesses spread along the epidural space involving an average of 2.8 to 4.3 segments in axial extent and can, at times, spread along the entire length of the epidural space.²⁻⁶

Bacteriology

Staphylococcus aureus is the causative organism in the majority of acute epidural infections, accounting for 50% to 60% of all epidural abscesses.^{1,2} Other organisms that infect the epidural space are the streptococci, *Listeria monocytogenes*, *Escherichia coli*, *Enterobacter cloacae*, *Pseudomonas*

Acknowledgment: The help of John Scott, M.D., neuroradiologist, in preparation of the radiographs is appreciated.

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aeruginosa and *Serratia marcescens*.^{4,7,8} The causative organisms of a spinal epidural abscess that develops following epidural catheterization for anesthesia are commonly the coagulase-negative staphylococci.⁹ *Mycobacterium tuberculosis* may produce a chronic abscess in the epidural space.^{7,8}

Etiology

An epidural abscess develops either by direct extension from a contiguous infection, such as a focus of osteomyelitis in an adjacent vertebral body, or by the hematogenous spread of bacteria from a remote site of infection.⁷ The latter is the more common etiology of acute epidural abscess formation. The most common source for the hematogenous spread of organisms to the epidural space is a skin infection, such as a furuncle, a cellulitis or infected acne, or an infection arising in intravenous lines. Urinary tract infections, pneumonia, pharyngitis and dental abscesses also may be a source of hematogenous spread of infection to the epidural space.^{2,4,8} Vertebral osteomyelitis is particularly common in intravenous drug abusers and often is complicated by the development of an epidural abscess. Mild blunt trauma has been reported to precede the development of a spinal epidural abscess in 15% to 35% of cases. The formation of a small hematoma as a result of the injury provides a locus minoris resistentiae allowing for hematogenous seeding of infection.^{4,10}

Pathology

A collection of pus in the epidural space not only results in disintegration of the epidural fat, but also produces inflammatory thrombosis in the intraspinal vessels leading to severe impairment of the intrinsic circulation of the cord.^{10,11} The result is necrosis with disappearance of cells and disintegration of spinal tracts within the parenchyma of the spinal cord.¹² These changes, the result of vascular damage to the cord, explain the marked

neurological dysfunction in patients who otherwise have no radiographic, operative or autopsy evidence of compression deformity of the cord.^{11,12}

Signs and Symptoms

Pain, at the level of the affected spine, is the most consistent and usually the first symptom of spinal epidural abscess. Heusner³ described a basic clinical pattern of progression of symptoms. Back pain is the initial symptom and is associated with tenderness to percussion over the vertebral column. Radicular pain in the extremities or girdle-pain around the trunk begins within two to three days of the onset of back pain. As the infection progresses, there is paresis of appendicular muscles, loss of sensation below the level of the lesion and loss of bowel and bladder control. Finally, there is complete paralysis of voluntary muscles and loss of all sensory modalities below the level of the lesion. Nuchal rigidity and Kernig's sign may be elicited. The majority of patients have either fever or leukocytosis, or both.^{2,4,12}

The clinical manifestations of spinal epidural abscess in adults are not seen in infants and young children. Spinal epidural abscesses in children under age 12 are almost always the result of hematogenous dissemination of bacteria from a skin, respiratory or urinary tract infection.⁵ The earliest symptoms in the pediatric age group are non-specific and consist of irritability, vomiting, fever, and excessive crying with handling. These symptoms are accompanied by signs of localized spinal tenderness, apparent pain with movement, and a reluctance to lie prone.^{5,13}

Differential Diagnosis

Major considerations in the differential diagnosis of spinal epidural abscess are: acute transverse myelitis, spinal subdural abscess, extradural neoplasm, epidural hematoma, meningitis, disc herniation or infection, and anterior spinal artery syndrome.

Acute transverse myelitis is a para-infectious or post-vaccinal inflammatory condition of the spinal cord that occurs with a frequency 8 to 20 times that of epidural abscess. The clinical presentation of both is similar, except that the absence of back pain favors a diagnosis of transverse myelitis, as does a history of a recent viral infection or vaccination. A typical presentation of spinal subdural empyema is backache, fever, and early symptoms of spinal cord compression, with a notable absence of tenderness to percussion over the vertebral column. A neoplasm that has invaded the epidural space produces a slowly evolving clinical syndrome more suggestive of a chronic than an acute process. Meningitis rarely produces localized spinal or focal neurological deficits (especially those due to lower motor neuron involvement). Patients with disc herniations have neurological signs and symptoms referable to a single spinal nerve root, or at most a few spinal nerve roots, but are otherwise healthy. The hallmark of an anterior spinal artery syndrome is a dissociated sensory loss. There is bilateral loss of pain and temperature sensation and involvement of the corticospinal tracts and anterior horn cells below the level of the lesion, with preservation of position, vibration and touch sensation.^{2,4,14,16}

Diagnosis

Magnetic resonance (MR) scans are able to accurately demonstrate an epidural abscess, and then aspiration for causative organisms can be obtained under computed tomographic (CT) guidance (*Figures 1A, 1B and 2*). CT scans have been successful in localizing an acute bacterial spinal epidural abscess in some series, and unsuccessful in others.¹⁷⁻²⁰ MR is superior to CT in demonstrating the infection, defining the extent of the inflammatory process and differentiating the various tissue components of the abscess. When MR is not readily available, myelography is the procedure of choice to make the diagnosis and, in general,

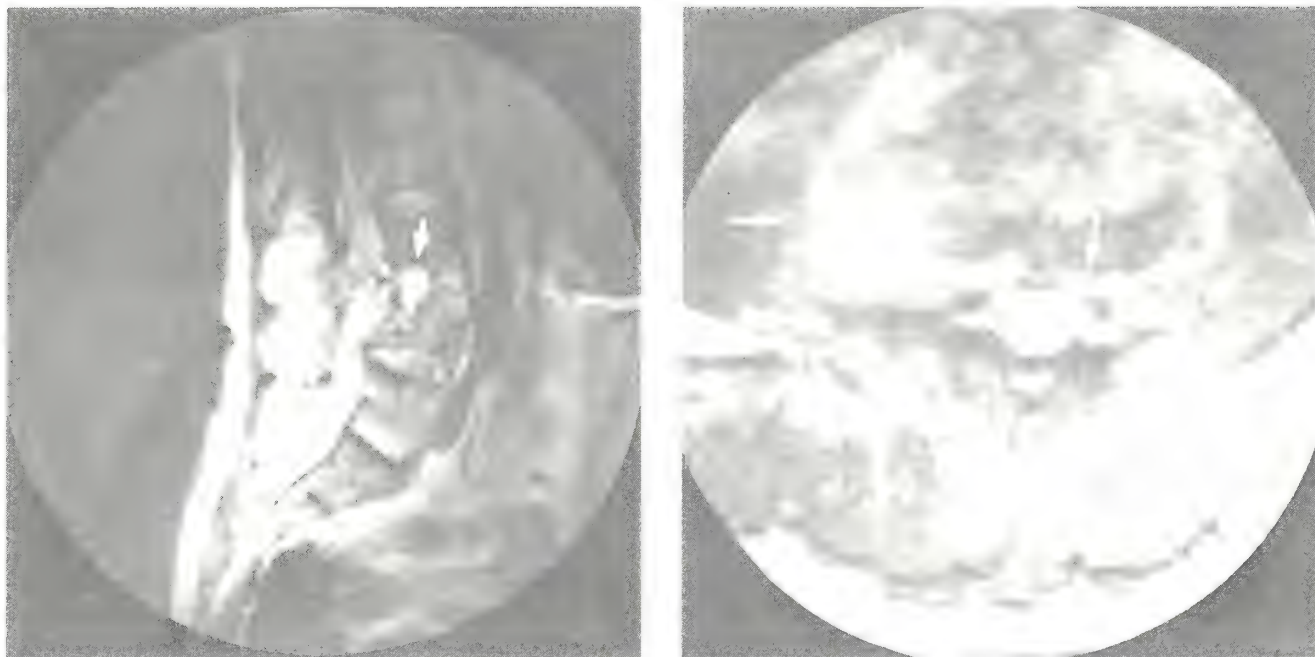


FIGURE 1A AND 1B: Sagittal (A) and axial (B) images (TR = 2000 msec TE = 70 msec) show a mass arising in the L3-L4 disc space (arrow). There is destruction of adjacent endplates with epidural and paravertebral extension (arrowheads).

is the best procedure for defining the full extent of the abscess.²¹

Performing a lumbar puncture at the site of a possible abscess carries the risk of contamination of the subarachnoid space. Aspiration of pus under CT-guidance is the best method to establish the diagnosis and determine the causative organism. If CT is not available, lumbar puncture should be done remote from the abscess site. For example, if a lumbar abscess is suspected, a cisternal or lateral cervical tap is recommended. If the needle enters the abscess, it should be advanced slowly and carefully.

Examination of pus or cerebrospinal fluid (CSF) is useful primarily to determine the infecting organism. The protein content is usually elevated, with levels greater than 100 mg per dL. The CSF protein is markedly elevated in cases with complete spinal block. The glucose content is usually normal; glucose levels below 40 mg per dL are evidence of a coexistent bacterial meningitis. The CSF pleocytosis is variable but most marked when frank pus is obtained as a result of penetration of the

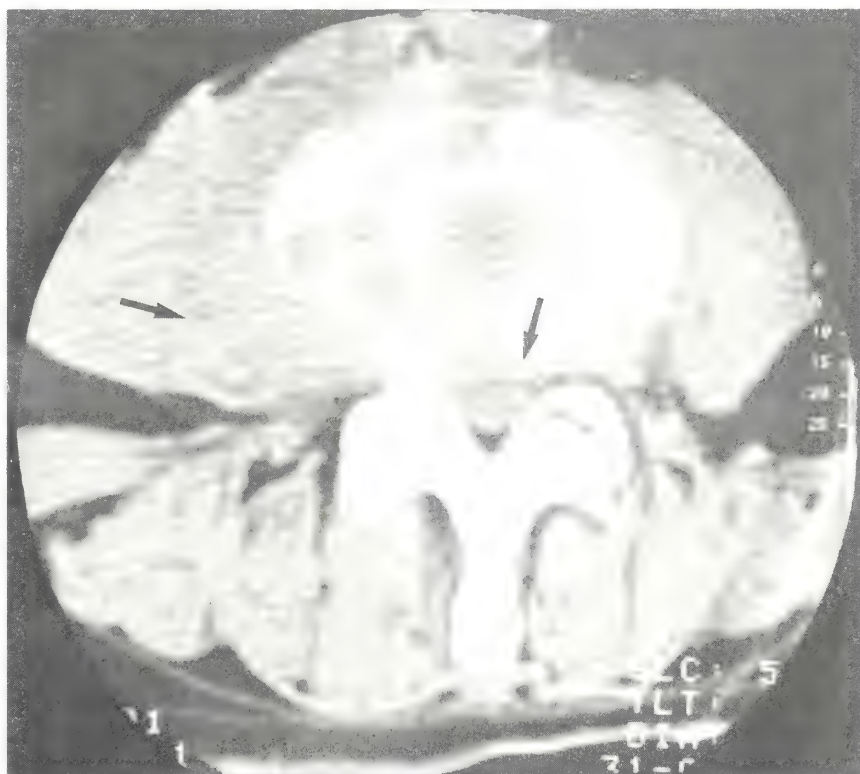


FIGURE 2: CT confirms the MRI findings of endplate destruction with paravertebral and epidural extension of the mass (arrowheads).

abscess. Plain radiographs of the spine may demonstrate an osteomyelitis; however, radiographic evidence of osteomyelitis is delayed several weeks after onset of the disease and has been reported in only 30% to 60% of epidural abscesses associated with vertebral osteomyelitis.^{1 4,7 8,12,22}

Treatment

In the majority of patients, immediate laminectomy with decompression and drainage of the epidural space must be performed to prevent imminent spinal cord necrosis, but certain patients may be managed with antibiotic therapy alone. Patients in whom conservative management can be chosen are those who do not have signs of spinal cord compression or cauda equina involvement, those who have severe concomitant medical problems, and those in whom the abscess involves a considerable length of the vertebral column.^{17,20,23} Urgent surgical decompression and drainage are indicated in patients with evidence of spinal cord compression or cauda equina involvement. As *S. aureus* is the most common etiologic agent in the majority of these infections, a penicillinase-resistant penicillin, such as oxacillin or nafcillin, should be initiated preoperatively, unless the history or laboratory findings suggest another organism. Parenteral antibiotic therapy is continued for three to four weeks in the absence of osteomyelitis and for six to eight weeks when vertebral osteomyelitis is present.^{4,5}

Prognosis

Prognosis can be determined by the length of time paralysis has been present and the degree of loss of sensation at the time of diagnosis and surgical intervention. If the paralysis has been present for less than 24 hours, the chance of either complete or partial recovery is good; however, when the paralysis has been present for more than 36 hours, the chance for recovery is poor. In addition, patients who have complete loss of sensation below the

level of the lesion at the time of surgical intervention have very little chance for recovery of meaningful function. Patients with patchy sensory disturbances or no loss of sensation should recover partially or completely.^{3,24}

Cranial Epidural Abscess

A cranial epidural abscess is a pyogenic infection that develops in the space between the dura and the inner table of the skull. As the dura is closely apposed to the inner surface of the cranium, an intact dura tends to resist the spread of infection, thus limiting the size of the abscess as well as minimizing the pressure effects on the brain.¹² An intracranial abscess is usually caused by spread of infection from the frontal sinuses, middle ear, mastoid or orbit.²⁵ The abscess may result from direct spread of infection through bone and underlie an osteomyelitis, or the infection may reach the epidural space via retrograde spread of thrombophlebitis in the emissary veins that drain these areas.^{26,27} An epidural abscess that arises from frontal sinusitis, middle ear infections, or mastoiditis is usually caused by streptococci. An epidural abscess that develops as a result of osteomyelitis, a complication of craniotomy or compound skull fracture, is usually caused by *S. aureus*.²⁵ Aerobic gram-negative bacilli are less frequently the causative organisms of this infection. An epidural abscess in this location also may occur in association with other types of intracranial infections, most commonly a subdural empyema.²⁸ In contrast to a spinal epidural abscess, a cranial epidural abscess rarely is the result of hematogenous seeding of the epidural space from a distant site of infection.²⁵

Signs and Symptoms

Intracranial epidural abscess should be suspected when an unrelenting headache or a persistent fever develops during or after treatment for frontal sinusitis, mastoiditis or otitis media. If the abscess is large, unilateral

headache and mild disturbances of consciousness may occur; however, focal neurological deficits, seizures and signs of increased intracranial pressure do not develop until extension of the infection into the subdural space has occurred, or a deeper intracranial complication has developed.^{25,28} Epidural abscesses near the petrous bone are an exception; these may involve the fifth and sixth cranial nerves, and present with ipsilateral facial pain and lateral rectus weakness (Gradenigo's syndrome).²⁸ Fever, leukocytosis, swelling and drainage from a craniotomy site are suggestive of an epidural infection complicating a craniotomy.²⁷

Diagnosis

CT scan is the diagnostic procedure of choice when an intracranial epidural abscess is suspected. On the non-contrasted CT scan, an epidural abscess has the appearance of a poorly defined, lentiform area of low density adjacent to the inner table of the skull. There may be an adjacent area of bone destruction or subgaleal soft-tissue mass formation. After contrast administration, the convex inner side of the low density lesion homogeneously enhances, representing the inflamed dural membrane. The underlying brain parenchyma appears normal unless there is an associated intracranial complication.^{26,29,30,31}

Plain radiographs of the skull and sinuses may demonstrate an underlying sinusitis or otitis or changes compatible with osteomyelitis. The changes in the cerebrospinal fluid are suggestive of a parameningeal focus of infection but are nonspecific and include mild pleocytosis, an elevated protein and a normal glucose. The spinal fluid is usually sterile. As with any intracranial mass lesion, there is a danger of tonsillar herniation when a lumbar puncture is performed in this clinical setting; therefore, this procedure should be avoided. Immediate neurosurgical intervention is indicated for drainage of the epidural abscess. At the time of surgery, Gram stains and

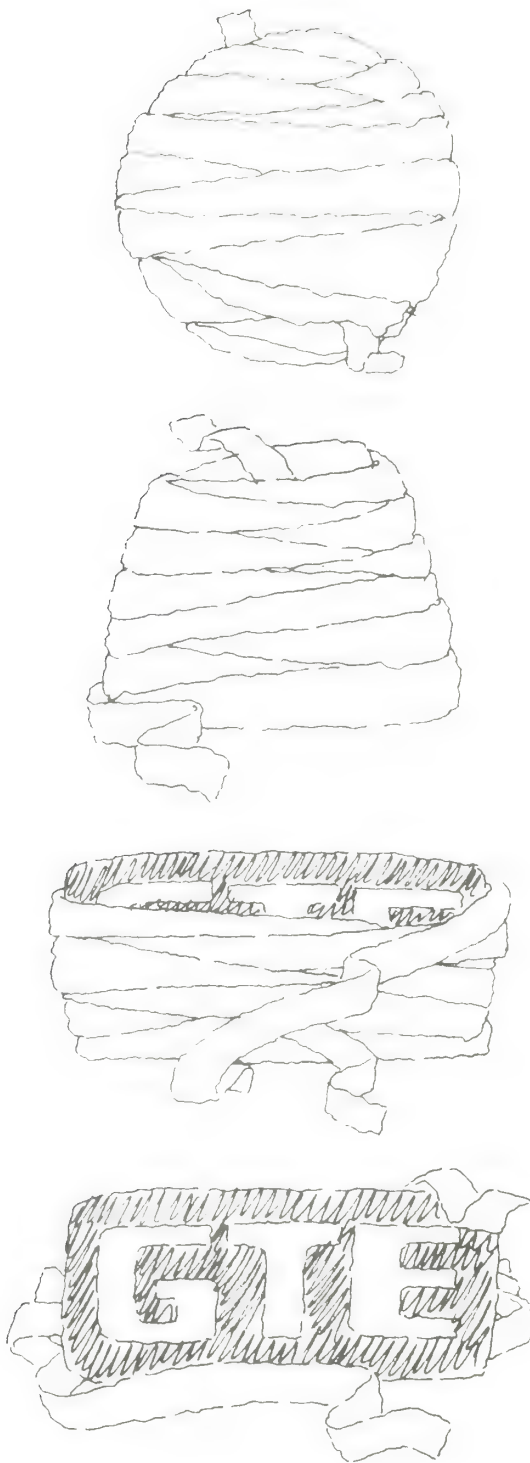
a culture of the material removed from the epidural space should be obtained.^{28,32}

Treatment

The treatment of an intracranial epidural abscess consists of antibiotic therapy, surgical drainage of the abscess and removal of overlying infected bone. The antibiotics of choice before culture results are known are a combination of chloramphenicol (50-100 mg/kg/day intravenously in four divided doses), penicillin G (20-24 million units daily, intravenously), and a penicillinase-resistant penicillin such as nafcillin or oxacillin (2 q IV every 4 hours) if staphylococci are suspected.^{33,34} Penicillin has excellent activity against streptococci and most anaerobes, with the exception of *Bacteroides fragilis*. Chloramphenicol has excellent activity against anaerobes. A third-generation cephalosporin (e.g., cefotaxime, ceftriaxone) should be used when chloramphenicol-resistant Gram-negative bacilli are isolated. Antibiotics should be continued for at least four weeks after surgical drainage. The prognosis for a patient with an epidural abscess without intracranial complications is very good.

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SECTION EDITOR:
Robert D. Tarver, M.D.
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Indianapolis, Ind.

Female Runner with Shin Pain

JOSEPH R. DECAMP, M.D.
Indianapolis

A 38-YEAR-OLD woman presented for evaluation of right leg pain and swelling of her shin. Her symptoms occur after running or playing volleyball and have been present for several years. In the past 18 months her symptoms have progressed in severity and frequency to the point where nonsteroidal anti-inflammatory agents no longer control the pain adequately. She also was concerned about a noticeable protrusion of the right shin compared to the left.

The patient denied recent or remote trauma and claimed to be in otherwise excellent health. She took no prescription medications and was not followed for any illness. She stated that a radiograph of the leg taken 14 years ago showed an abnormality of the bone that would require surgery if the lesion became symptomatic. The patient had no follow-up until now.

Positive physical findings were limited to the right lower extremity. The tibia was prominent, and there was mild anterior bowing of the shin. There was no tenderness, erythema, edema or cutaneous lesion. The hip, knee and ankle had full range of motion. Reflexes, strength and pulses were normal. An x-ray of the tibia was obtained. Routine blood chemistries, complete blood count (CBC), alkaline

phosphatase and urinalysis were within normal limits. A computed tomography (CT) scan revealed multiple cystic changes in the proximal tibial

shaft and marked cortical thickening without cortical destruction, periosteal reaction or soft tissue extension. A bone scan showed diffuse increased up-



**Patient's
Radiograph
on Admission:
What Is
The Patient's
Problem?**

From the Department of Radiology, Indiana University Hospital, 926 W. Michigan St., Indianapolis, Ind. 46223. Dr. DeCamp is a resident in radiology.

RADIOLOGY CLINIC

take involving the proximal two-thirds of the tibia. The patient underwent open biopsy.

Diagnosis: Paget's Disease

Paget's disease (osteitis deformans) is a bone disorder that affects approximately 3% of the population over 40 years of age. The diagnosis is rare before this (less than 3%). Predominantly seen in Caucasians, it is most common in natives of Australia, England, the United States, Canada and several European countries. The disease is very rare among Asians. Men are affected slightly more than women. Paget's disease is usually a localized process involving focal or multiple regions of the skeleton. A severe form exists with extensive bony abnormalities. Although the disease may present in any bone, the pelvis and vertebral bodies are the most commonly affected. Other common sites, in decreasing order of frequency, include the femur, skull, tibia, clavicle, humerus and ribs.

The primary bony changes arise from abnormal and excessive remodeling that typically progresses through three separate phases: osteoclastic (lytic), osteoblastic (reparative) and mixed. A dormant stage separates periods of exacerbation. The radiographic appearance depends upon the stage of the disease at the time of examination. Typically, there is marked cortical thickening and enlargement of the bone with an irregular, coarsened trabecular pattern. Softening is manifest by bowing of the

long bones, often with visible "pseudofractures" of the involved cortex. Pathologic fracture through the weakened bone is possible. In the case presented, the anterior bowing of the tibia provides the classic "saber-shin" appearance associated with Paget's disease. Another classic radiographic finding is the "flame" or "blade of grass" appearance seen in the diaphysal region of long bones. This represents the active "front" of the lesion where the greatest osteoclastic activity is located.

The clinical course varies depending upon the extent and severity of involvement. The majority of patients (80%) are asymptomatic, and the diagnosis is made as an incidental x-ray or bone scan finding. Occasionally, one is directed to the diagnosis by an elevated serum alkaline phosphatase during routine blood screening. (The alkaline phosphatase in this patient was within the upper limits of normal on admission.) In symptomatic patients, pain and tenderness are common and typically not related to exercise. An enlarging bone is often the cause for presentation.

During the active stages of the disease, serum alkaline phosphatase and urinary hydroxyproline levels are the most useful determinations for guiding treatment and monitoring response to therapy. This is particularly true in patients with monostotic Paget's disease. Elevated hydroxyproline likely reflects active bony resorption that parallels the osteoclastic phase of the disease. As the reparative

process begins, the mixed phase yields stabilizing or normalizing hydroxyproline and rising alkaline phosphatase levels. A normal hydroxyproline with elevated alkaline phosphatase signifies the predominantly osteoblastic phase. Laboratory values are normal during the intervening dormant stage.

Therapy for Paget's disease is directed at relief of symptoms. The majority of patients will require no treatment. Mild symptoms are often well controlled with aspirin or similar nonsteroidal anti-inflammatory drug. Calcitonin and diphosphonate therapy have proven effective in suppressing clinical symptoms. Mithramycin is occasionally used in select patients.

This patient was treated with an initial six-month course of etidronate disodium and responded well. Her case is noteworthy for the atypical presentation in a relatively young patient having fairly extensive monostotic involvement of the tibia. Indeed, her history suggests that the lesion was detected on an x-ray taken when she was 24 years old.

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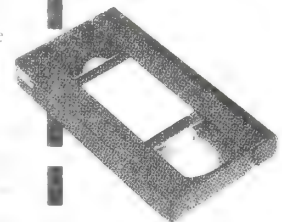
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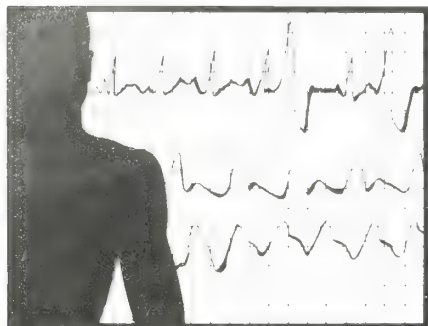
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The Critical Care Chaplain



ADULT CRITICAL CARE MEDICINE

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STANLEY J. MULLIN, D. Min.¹
B. FRANK CIAMPA, Th.M.²
Indianapolis

A MODERN CRITICAL care unit, while offering the most intense medical coverage, also provides a setting for intense human emotion. Any setting in which rites of passage such as birth and death occur daily has the potential to be intensely important and ultimately valuable to individuals who experience that setting. Because the critical care setting is the scene of so many rites of passage, it is a particularly important setting for a chaplain. Seldom does the medical community look upon its endeavors in its sacred dimension. Yet the critical care unit in a modern hospital is the scene for many sacred events. In order to translate these events, to make them meaningful and to provide the necessary support for persons to successfully negotiate and potentially benefit from these events, a chaplain is essential.

Three factors make the work of any staff chaplain essential in a critical care unit. First is the availability of time to work with patients, families and staff. Time to listen is essential for the best communication. Chaplains also visit patients, families and friends without the heavy agenda and potentially ominous message that typifies visits by other health care professionals. Second, the trained chaplain is equipped with the communication and behavioral skills necessary to assist persons both in grief situations and in important decision making experiences. Third, the chaplain symbolizes the sacred dimension of life. The presence of a chaplain is symbolic of God's abiding presence and love for all people.

With the availability of time to be used in a flexible and responsive way, equipped with the best in communication skills, and utilizing the symbolic qualities of the priestly role, a chaplain works in the following areas as a member of the patient care team:

1. The chaplain is well versed in ethical decision making, particularly as it relates to ethical consultations and to issues related to withdrawal of therapies. Since chaplains regularly see most patients and families in the critical care unit, the chaplain is often well acquainted with family attitudes, beliefs and emotions before an ethical consultation is requested by the physician. This familiarity is often important in helping family members understand and accept the issues to be explored and participate actively in the discussion with the physician and others.

2. The critical care chaplain has developed expertise in two-way communication between the patient care team, family, friends and patient. The chaplain has a basic understanding of medical procedures and processes in addition to a well developed expertise in emotional and religious dynamics of families. This is particularly true as related to grief situations where the chaplain may help families or patients understand certain medical issues within the context of their emotions and theology.

3. The chaplain has the opportunity to see the developing case in its broadest context, incorporating the medical, ethical, religious, social and economic dimensions. He or she may then assist in making others who are involved in the patient's care aware of these dimensions and how they may interact, so that the care of the patient and family is as wholistic and sensitive as possible.

4. The ability to work closely with the family and often the patient so as to appreciate and explore the multi dimensional nature of most critical care

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situations also provides an effective protection against conflicts and feelings of hostility that can arise from miscommunication and/or lack of communication. This is a kind of anticipatory conflict management. Also, if conflicts arise, the chaplain is often the most effective team member to facilitate a constructive resolution. Thus, regardless of the outcome of the medical intervention, families often will feel care and concern from the health care environment when they leave the hospital.

5. During times of spiritual significance, rites of passage often are symbolized in our society by religious rituals. Prayer, the sacrament of the sick for Catholic patients and the support of the chaplain symbolizing God's presence provide emotional and spiritual support for people in the critical care setting. The release of anxiety, stress and anger is often accomplished through the power of prayer and the religious rites provided by chaplaincy.

6. The critical care chaplain has expertise in the religious and ethical aspects of brain death, organ procurement and transplantation. The chaplain also has a lay understanding of the medical dimensions of these issues. By providing information about the position of the church in such matters and by helping the family comprehend the

medical realities and process their feelings about these facts, families are able to make choices consistent with their beliefs and the reality of the circumstance.

7. The critical care chaplain understands many medical and technical aspects of the critical care unit and of the care of the chronically and critically ill. In such situations the chaplain is able to translate and to help the family understand information they receive from physicians, nurses and others. Often the chaplain can further facilitate the family's understanding by reconnecting family members with the physician or nurse for additional discussions. In so doing, the chaplain functions as a vital link in an attempt to provide compassionate health care.

These seven areas of the chaplain's expertise are complemented by the three factors mentioned earlier. While busy doctors and nurses seldom have extra time to spend talking and listening to families and patients, those are essential parts of the chaplain's work. The trained hospital chaplain also has been formally educated in basic communication skills and behavioral sciences.

The primary training credential for hospital chaplaincy is membership in the College of Chaplains of the American Protestant Hospital Association. In addition, Catholic priests and

religious workers are certified by the National Association of Catholic Chaplains. It is important when hiring a chaplain that institutions be aware of these certifying bodies and their basic requirements. Credentials provide better assurance that a chaplain is well trained in communication, has proven pastoral experience and is fully recognized by his or her religious body.

Perhaps the most important factor is that the chaplain symbolizes the sacred dimension of life. We understand our relationship to God as one that brings peace and love into our existence. The chaplain symbolizes this relationship and offers the opportunity for people to deal more openly with those ultimate concerns that often arise in a health care setting.

The modern hospital has been referred to as a temple because of the many sacred events that occur within its walls. The experiences of the birth of new life and death of a loved individual often cause people to consider what is most important in their lives. The presence of a chaplain in the hospital indicates to patients, families and the community that the members of the health care team believe that this question is important and that its answer and the interpersonal ramifications of seeking its answer are worthy of our best collective efforts.

Summary of NIH Report on MRI

HOMER F. BELTZ, M.D.
Indianapolis

THE FOLLOWING IS a summary of the National Institutes of Health (NIH) consensus development conference statement on magnetic resonance imaging (MRI) released late last year.

I have listed the findings that are still appropriate as stated in this NIH statement. I have omitted statements that are no longer appropriate.

Contraindications and risk to MRI consist primarily of ferromagnetic objects within the patient. If these objects are of sufficient size or in a vital area, untoward effects may be elicited. Effects of the MRI on an unborn fetus have not been completely established; therefore, it is not recommended during the first trimester of pregnancy.

The actual advantages of the MRI over other modalities is that it discriminates among tissues using their physical and biochemical properties. It also has the ability to obtain images in multiple planes, facilitating

radiation therapy and surgical treatment planning. The disadvantage over other modalities is that it is a relatively slow procedure; therefore, motion is a problem and the bore of the magnet is forbiddable to some patients with claustrophobia. Another significant drawback is the expense of this modality. This is substantially more expensive than a computed tomography (CT) scanner.

Diagnostically, MRI has a particular advantage over CT in a number of areas. Firstly, in examining lesions of the brain, it has a particular advantage in areas surrounded by bone such as the posterior fossa orbits and internal auditory canals. It also has a particular advantage in detecting cerebral vascular infarctions at an earlier age than CT scanning. It also has an advantage in defining arterial venous malformations and demyelinating disorders. There is no particular advantage over the CT examination when examining cerebral vascular infarctions greater than 48 hours. However, MRI is advantageous in examining subacute hematomas, and CT scanning is most helpful in acute hematomas of the brain.

MRI has a particular advantage in examining tumors of the spinal cord and syringomyelia. It also has an advantage over CT scanning in examining degenerative disc disease at all levels.

The cardiovascular system presently is being examined by MRI. It is gaining rapid acceptance; however, the echocardiogram as a primary screening procedure is still the favored modality. MRI can examine the heart for ischemic disease and evaluate the chambers of the heart as well as masses within the heart without difficulty. It is also capable of evaluating congenital heart disease.

MRI is comparable to CT scanning in evaluating mediastinal adenopathy. MRI has an advantage when contrast cannot be used on a CT scan for evaluating the hilar areas and peritracheal areas. There is no advantage of MRI when comparing to a CT scan of the chest with contrast. MRI has no advantage over CT scanning of the abdomen, including the liver, pancreas, spleen and kidneys. In a few cases, MRI has an advantage when examining the adrenal glands, particularly when the examination is for pheochromocytomas or adenomas. MRI also has an advantage over CT in staging pelvic malignancies by depicting them in more than one plane.

Free, single copies of the consensus statement on magnetic resonance imaging may be obtained from: Michael J. Bernstein, Office of Medical Applications of Research, National Institutes of Health, Building 1, Room 216, Bethesda, Md. 20892.

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CONTINUING EDUCATION Neurology and Neuro-
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OUTSTANDING ACHIEVEMENTS Olsen Memorial
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Albert Schweitzer Fellowship, International Albert Schweitzer
Foundation; Harvard Medical School Cabot Prize for Best
Senior Thesis; recently published article, "Who Shall Live
and Who Shall Die" in Newsweek Magazine.

“The work I’m doing in the Army Reserve fits perfectly with my academic research interests in civilian life. The Army is very concerned with the effects of high-altitude cerebral edema, which is a mirror model of cerebral hypoxia, something I deal with every day in our neurosurgical intensive care unit. I couldn’t ask for a smoother transition. And that’s true for a lot of Reserve physicians. All we really do is change our clothes, not our mindset.

“Some of the projects the Army is undertaking are on the cutting edge of research. For example, I’m currently involved in developing for the Army a prototype of a non-invasive intracranial pressure-monitoring device that we hope will allow us to measure pressure changes as the brain swells—without drilling holes in the skull. If we can get our design to work, such a device could revolutionize high-altitude medicine as well as civilian neurosurgical care.

“The quality of medicine and the caliber of people I’ve been associated with in the Army Reserve are, without question, equal to civilian hospitals. In fact, I’m giving serious consideration to applying for an active duty academic position in Army Medicine when my residency ends at Massachusetts General.”

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Soldier being examined for effects of high-altitude cerebral edema.

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Summary.

Consult the package literature for prescribing information.

Indication: Lower respiratory infections, including pneumonia, caused by *Streptococcus pneumoniae*, *Haemophilus influenzae*, and *Streptococcus pyogenes* (group A β -hemolytic streptococci).

Contraindication: Known allergy to cephalosporins.

Warnings: CECLOR SHOULD BE ADMINISTERED CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS. PENICILLINS AND CEPHALOSPORINS SHOW PARTIAL CROSS ALLERGENICITY. POSSIBLE REACTIONS INCLUDE ANAPHYLAXIS.

Administer cautiously to allergic patients.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

Precautions:

- Discontinue Ceclor in the event of allergic reactions to it.
- Prolonged use may result in overgrowth of nonsusceptible organisms.
- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
- Ceclor should be administered with caution in the presence of markedly impaired renal function. Although dosage adjustments in

moderate to severe renal impairment are usually not required, careful clinical observation and laboratory studies should be made.

- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

Adverse Reactions: (percentage of patients)

- Therapy-related adverse reactions are uncommon. Those reported include:
- Gastrointestinal (mostly diarrhea) 2.5%
 - Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
 - Hypersensitivity reactions (including morbilliform eruptions, pruritus, urticaria, and serum-sickness-like reactions that have included erythema multiforme [rarely, Stevens-Johnson syndrome] and toxic epidermal necrolysis or the above skin manifestations accompanied by arthritis/arthritis, and frequently, fever) 1.5%, usually subside within a few days after cessation of therapy. Serum sickness-like reactions have been reported more frequently in children than in adults and have usually occurred during or following a second course of therapy with Ceclor. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

- Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.
 - As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.
 - Rarely, reversible hyperactivity, nervousness, insomnia, confusion, hypotonia, dizziness, and somnolence have been reported.
 - Other: eosinophilia, 2%, genital pruritus or vaginitis, less than 1%, and, rarely, thrombocytopenia.
- Abnormalities in laboratory results of uncertain etiology**
- Slight elevations in hepatic enzymes.
 - Transient fluctuations in leukocyte count (especially in infants and children).
 - Abnormal urinalysis, elevations in BUN or serum creatinine.
 - Positive direct Coombs' test.
 - False-positive tests for urinary glucose with Benedict's or Fehling's solution and ClinTest[®] tablets but not with Tes-Tape[®] (glucose enzymatic test strip, Lilly).

(061086L)

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Lymphomatoid Granulomatosis: A Case Report

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Abstract

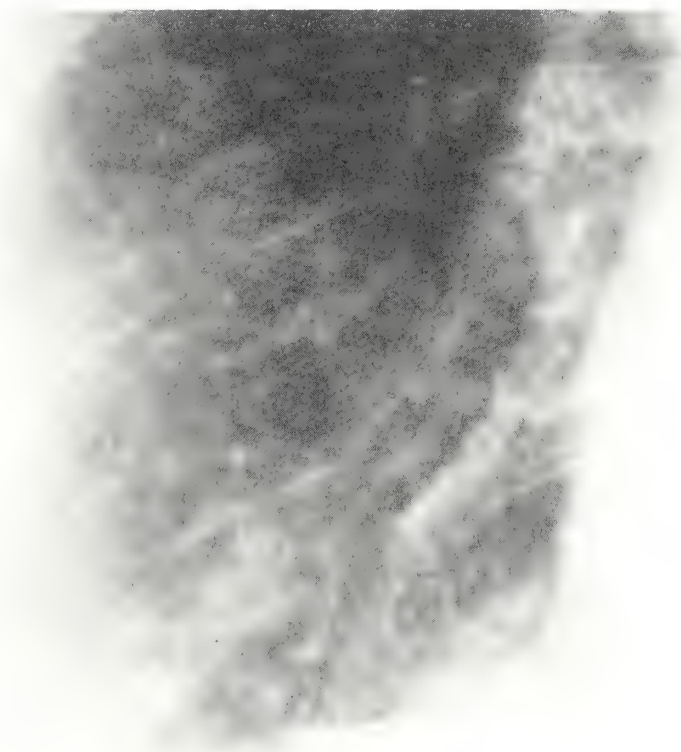
A case report is presented of a 68-year-old white woman diagnosed with lymphomatoid granulomatosis (LYG). History and physical examina-

tion findings are reviewed as well as laboratory data and serial chest films. A brief review of the clinical and radiologic course of LYG is included.

A 68-YEAR-OLD woman was evaluated for fever and abdominal pain and was clinically diagnosed as cholecystitis. A routine preoperative chest examination was abnormal, and further preoperative evaluation was pursued. The patient described mild dyspnea on exertion for two years. She stated that she had experienced a mild intermittent cough for two years, as well as intermittent pleuritic chest pain. She described the cough as increased in the past two weeks.

The patient had been a two-pack per day cigarette smoker for 35 years but stopped eight years before. No occupational exposures were noted.

Physical examination revealed unlabored respirations with bibasilar rales with rhonchi. No other pertinent abnormalities were noted on physical exam. Laboratory data revealed a normal complete blood count without



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FIGURE 1: CXR 12/84: Slight coarsening of the interstitial markings, most noticeable in the bases, has occurred in the interval since the essentially normal film of 12/80.

eosinophilia. Arterial blood gases on room air revealed a pO₂ of 76, pCO₂ 37 and a pH of 7.42 on room air. Chem 24 and urinalysis were negative. Wester-

gren sed rate was 89. Antinuclear antibody was positive with a homogenous pattern to 1:120 dilution. Serum protein electrophoresis revealed increased

gamma globulin of 2.4 (nl 0.6 - 1.6) in a polyclonal gammopathy pattern. Hypersensitivity lung profile and fungal titers were negative. Pulmonary



FIGURE 2

FIGURE 2: CXR 1/87: Continued progression of basilar interstitial process with early nodule formation.



FIGURE 3

FIGURE 3: CXR 1/88: Multiple basilar nodules have increased in size and number.



FIGURE 4: Galium 67 scan: A single camera image of the posterior thorax shows diffuse low-grade increased uptake in both lung bases. Focal uptake is noted at sites corresponding to larger nodules seen on chest x-ray.



FIGURE 4

function tests were consistent with a mild obstructive pattern.

Radiographic Findings

Serial chest films demonstrate normal parenchymal appearance in 1980. Subsequent studies reveal coarsening of the bronchovascular markings in the bases in 1982 and 1984 with the suggestion of small multiple bibasilar nodules on the latter film (*Figure 1*). Progression of size and numbers of this multinodular process is apparent on the final two studies (*Figures 2 and 3*).

Gallium scan reveals abnormal increased uptake in a distribution corresponding to plain film abnormalities (*Figure 4*).

Discussion

Lymphomatoid granulomatosis (LYG) was first described in 1972 by Liebow, *et al.*^{1,2} Histologically LYG is characterized by necrotizing angiodestructive lymphocytic infiltrates that most frequently involve the lungs. Systemic involvement to include skin, kidney and central nervous system is not uncommon. In a study of 152 cases of LYG, Katzenstein, *et al* noted a mean age at diagnosis of 48

years with a 1.7:1 male/female ratio. The most frequent presenting symptoms included dyspnea, cough, fever, weight loss and malaise. Three percent were asymptomatic.³

Radiographically, LYG typically (58% to 79% in various studies) presents as multiple ill-defined nodular densities in a bibasilar distribution.^{3,4} Seventy-nine percent of patients in the largest reported series (Katzenstein) had bilateral disease on the initial film.³ Nodule diameters vary from 4 mm to 10 cm.⁵ Presentation as a solitary pulmonary nodule was noted in 5% of cases on other studies. Parenchymal consolidation has been described in a small percentage of patients and is thought to result from parenchymal hemorrhage or infarct caused by the angiodestructive process. Less than 20% of patients initially presented with parenchymal consolidation in one study.⁵

Lymphadenopathy is an infrequent finding with hilar adenopathy noted in 2% to 25% of cases.^{5,6} Cavitation has been described in 20% to 30% of patients.⁵

Gallium uptake has been reported in pulmonary parenchymal lesions;

however, the appearance is nonspecific and not clinically helpful.

Prognosis in LYG is dismal, with reported median survival times of 14 months from time of diagnosis. Degeneration into malignant lymphoma occurred in 12% of patients.³

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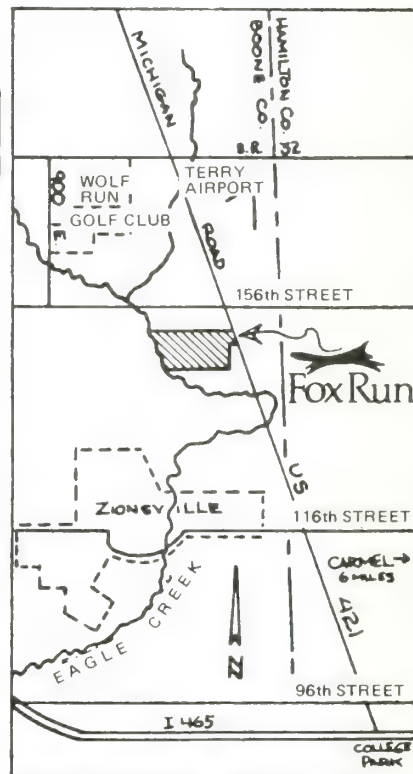
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How Joining an HMO or PPO Can Benefit Your Practice

THOMAS J. MORETTO, M.D.
Indianapolis

AN INCREASING number of managed health care plans are being developed by insurance providers, and more consumers than ever are signing up for these plans to control their out-of-pocket health care expenses. This trend means many primary care physicians in Indiana soon may need to consider joining an HMO or PPO.

Though joining an HMO or PPO may necessitate some administrative changes in your practice, joining one can benefit your practice in ways that are unavailable under the traditional fee-for-service system.

Managed Entry into the Plan

Perhaps the most important impact of an HMO or PPO is on your relationship with your patients. Under traditional insurance, patients can refer themselves to specialists without prior authorization. Patients often visit physician after physician, and the insurance company covers the bill, "no questions asked." These patients are often left with unsolved health problems after many physician visits and, as a result, become dissatisfied with the medical system.

Continuity of care is one of the great watchwords of medical practice. The proper relationship between the patient and the primary physician in an HMO or a PPO tends to, and may ab-

solutely, produce continuity of care, one of the supreme blessings for both patient and doctor.

Under an HMO or PPO, you as primary care physician have increased control over your patients' health care since you must authorize referrals and use of certain types of care. Since a patient must consult you in order to be reimbursed for treatment costs, the likelihood that he or she will run from physician to physician decreases. You are able to supervise a patient's entry into the medical system and coordinate all treatment by specialists, so that all modalities of treatment used contribute to the patient's health regimen rather than conflict. This comprehensive authority will help you ensure that the medical system delivers all the services—and only those services—that will contribute to better overall health for the patient.

Marketing your Practice

In addition to enhancing your control over patient care, HMOs and PPOs provide marketing for your practice. One major factor used to sell HMO and PPO coverage to companies is that HMOs and PPOs use high standards in selecting physicians to join the provider network. When promoting the quality of member physician groups through letters, presentations and publications, the HMO or PPO in effect promotes the quality of your practice.

Most HMOs and PPOs also have quality assurance and utilization review programs to ensure that patients receive an appropriate level of quality care. Member physicians share in the responsibility of determining the standards of service excellence that will be required and evaluating the quality of service rendered. Quality

(Editor's Note: This is the second in a series of three articles about managed health care plans.)

and utilization standards set by primary care physicians will ensure that the quality of your practice and those of other physicians will continue to be promoted through the HMO or PPO.

Expanding/Preserving a Patient Base

For physicians with new practices, an HMO or PPO can help build a patient base and a share of the local market. Established practices can use an HMO or PPO as a marketing tool to help preserve their patient base. Consider a hypothetical example. Twenty percent of a physician's patients work for a large company. The company begins to offer HMO/PPO insurance and all 20% of the physician's patients join. Unless the physician joins the HMO/PPO, the patients will have to select another primary care physician. By joining the HMO/PPO, the physician could not only retain present patients, but could add other patients from the company who may select him or her as their primary care physician.

In fact, physicians who have been in practice longer tend to have a better chance of doing well with managed health care plans. Their additional experience may make them more comfortable with a patient's health problem rather than immediately ordering a visit to a specialist, reducing the risk of overutilization of services. In addition, physicians in practice longer tend to have seen patients regularly and have the patients' health needs up

The author is statewide medical director at HealthPlus HMO.

to date. When a patient has not been to the doctor in years, he or she may have a tremendous need for services (such as mammograms and other screenings) in the first year or two of the physician-patient relationship.

Joining an HMO or PPO does not mean you are forced to take a certain number of new patients. You can accept as few patients as you think your practice can accommodate. Be aware, though, that having fewer HMO/PPO patients may increase your risk, if, by adverse selection, you happen to get a high proportion of patients in need of extensive medical care. In general, a load of 200 to 250 HMO/PPO patients will provide a good balance of risk and reward.

Patients are attracted to HMO and PPO insurance because it is the most

progressive available. Low out-of-pocket expenses enable patients to contain health care costs. HMOs' and PPOs' emphasis on preventive care—dealing with minor illnesses before they become major medical problems—is another positive factor that will increase HMO and PPO membership. As a physician member of an HMO or PPO, you are demonstrating to patients that you understand their concerns about containing health care costs while still offering the preventive services that help eliminate major illness.

HMO or PPO membership can benefit your practice in the following ways:

- increase your ability to supervise patients' treatment in the medical delivery system;

- provide marketing for your practice by promoting physician membership and quality of services;

- expand or preserve your patient base as more employees opt for HMO/PPO coverage; and

- demonstrate your common interest with patients—quality care at affordable costs.

HMOs and PPOs are still in the first generation. Improved quality assurance programs by HMOs and PPOs will help enhance the quality of care as the balance between quality and cost is struck. Increased interest and cooperation by insurers, patients and physicians will help HMOs and PPOs be an even more efficient form of health care delivery in the second and third generations.

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A Guide to Peddling Your Influences

How To Serve as a Key Contact for ISMA

JULIANNA M. NEWLAND

ISMA

Director of Government Relations

lobby, n. 1. a corridor or hall connected with a larger room or series of rooms and used as a passageway or waiting room; vi. 2. a group of persons engaged in activities aimed at influencing public officials and especially members of a legislative body on legislation.

NOW THAT I have crystallized my job description as that of either a hallway, or an influence peddler, I can charge forward to the upcoming legislative session.

Indiana law requires persons who wish to "lobby" (i.e., influence peddle) to register themselves with the proper state authority. While I do not claim to have any knowledge of Michael Deaver or of peddling my influences (it is difficult to bribe a public official with \$3.73), I do represent the interests of 6,500 physicians before the Indiana General Assembly as a registered lobbyist.

The key, however, to the success of a lobbyist is not who they are (although sometimes that does give one an extra plus) but whom they represent. Representing physicians and trying to mold and shape our state laws to ensure that in the final passage legislators: 1) do no harm and 2) promote quality health care, are the goals of the ISMA lobbyists.

More than 1,000 people are registered to lobby in Indiana. Each represents his or her own interest groups, companies and issues. Given the

volume of work that our lawmakers must deal with each session on issues ranging from banking to zoning, it is imperative that health care issues not be shoved on the back burner or dealt with hastily.

Whether we like it or not, lawmakers pass laws. That's why they're sent to Indianapolis. State lawmakers depend on lobbyists, but more importantly, they rely on their constituents to provide them with the pros and cons of proposed legislation.

Health care—how it is delivered, by whom and at what cost—likely will be the dominant concern of our lawmakers in the next decade. The medical community needs to help mold these health care issues and participate in the lawmaking process.

To make this participation easier, the ISMA has a method for helping physicians take a role in the lawmaking process—the Key Contact program.

The ISMA Key Contact program is a grass roots lobbying effort for physicians and their spouses who want to be participants in the lawmaking process.

As a Key Contact for the Indiana State Medical Association, you have a crucial role to play for organized medicine in Indiana. Not only are you an informed citizen when it comes to issues that affect the practice of medicine, but you are also a constituent of one or more members of the legislature. That means you have an important viewpoint to express to legislators when they are considering health and medical legislation.

The familiar saying "no news is good news" applies in numerous instances

to the Indiana General Assembly. Often, the legislature operates under the impression that if they do not hear anything from their constituents "back home" on a particular bill, then the legislation must be acceptable. That is why it is imperative that you tell legislators from your district your opinions on proposed legislation that affects the medical profession. Legislators want to hear from their constituents so they in turn can make informed choices when debating and voting on a proposed bill. Helping the legislators make those informed choices is the job of the Key Contact.

An important component of effective lobbying is best accomplished by the "daily-double" method. The legislator can be lobbied on an issue by the ISMA lobbyists while members of the medical profession in the legislator's home district can educate the legislator on the proposed legislation and how it affects physicians' medical practices and their patients. Here, reinforcement is the mechanism for strengthening the physician-legislator relationship, thus helping to ensure a favorable climate for the practice of medicine in Indiana.

Remember, the ISMA lobbyists do not live in your legislator's district. You do.

The ISMA's Department of Government Relations has a four-page booklet on how to be a Key Contact. The Key Contact program is tailored to be flexible based on the degree to which you want to be involved.

Please help the ISMA in its lobbying efforts throughout Indiana.

Let's see... there was something I was going to do in the lobby...

Section 89 of the Tax Law: An Employee Benefits Revolution

EMPLOYERS SOON WILL receive notice from their group insurance sales representative or tax adviser that a new tax law will take effect in January. This law will complicate employers' lives. However, penalties for non-compliance are harsh for both the employer and employee.

Section 89 of the Tax Reform Act of 1986 takes effect Jan. 1, 1989. It will affect virtually all employee benefit plans by introducing non-discrimination rules.

An employer that does not comply with the new law could be required to pay an excise tax equal to 28% of the value of all employee benefits. For a company with 30 employees and an average employee benefits package, the excise tax for non-compliance might be \$15,000 to \$20,000. I'm certain this would result in a rather serious discussion with the boss. I'll tell you about the under-withholding and under-reporting penalties later.

However, the cost for employees can be more—much more. Employees who receive benefits from a non-complying plan are to be taxed at ordinary income rates on the total value of all benefits received.

In the case of a pregnancy benefit, this might increase an employee's taxable income by \$5,000 and cost him \$1,500 in additional taxes. Serious medical problems, such as a heart at-

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GREGORY WRIGHT, CFP
Indianapolis

tack or cancer, might increase an employee's taxable income \$100,000 or more. Here the added tax burden might be \$30,000. The timing is great, too.

What's more, almost every single employee who received benefits under these various plans (including life insurance death claims) would be taxed on the value of benefits received. This would not result in a happy work force. The person who is responsible for this mess had better relocate.

Also, besides the excise tax, the company would have to pay the standard under-withholding and under-reporting penalties on the additional employee income.

However, few company chief financial officers or benefits specialists are aware of the full implications of the new rules or how to avoid the penalties. Since the law has been on the books for some time, why hasn't someone told them?

The complex new requirements were designed by Washington bureaucrats to remove the tax-favored status of employee benefit plans that discriminate in favor of business owners and key employees. It also was sought in order to raise more than \$100 million in new annual revenues for the Department of the Treasury.

The employee benefit plans that are affected include medical care, vision care, dental care, group term insurance and child care. Cafeteria and medical reimbursement plans are also affected. Single-employee and family benefits must be treated separately. Employee discounts and travel-accident insurance must be accounted for and tested separately.

Each benefit plan must be in writing, be legally enforceable and be for the exclusive benefit of employees. Employees must be notified of their benefits. As a practical matter, most advisers agree that a separate plan description should be provided to each employee.

To determine whether the so-called non-highly compensated employees are getting their proper share of benefits, several mechanical and "facts and circumstances" tests must be performed.

First, you must determine who belongs in the "highly compensated" and "non-highly compensated" groups. Some will be surprised to learn that part-time workers who work 17 1/2 or more hours per week will be counted

for discrimination-testing purposes.

Next, you must perform a series of non-discrimination tests. These tests include the 80% coverage test, the 50% eligibility test, the 90%/50% eligibility test and the 75% benefits test. Each benefit must be tested separately.

Got that?

Some employers will find that they have to overhaul their benefits program in order to be in compliance. For example, even if employers pay 100% of the medical insurance premium for all employees and their families, they may not be in compliance with the law. Furthermore, benefits paid for by the employee with voluntary pretax dollars are considered, for testing purposes, to be the same as company-paid benefits and must meet the discrimination tests.

Most large employers will purchase software (offered by several vendors) and perform their own testing. The large actuarial-service firms also will be available to work with them. Smaller businesses will pay \$300 to \$600 per quarter for the compliance-testing service. Some providers will offer substantial fee discounts to companies that purchase group insurance products from them.

Recently, I attended an out-of-state conference on Section 89 compliance testing. It was sold out and had to be relocated to another hotel with larger facilities. Most of those who attended were from pension-plan administration firms. Few had health and benefits experience. Fewer still were familiar with the insurance products used in group benefits plans. However, it was agreed that very few health insurance underwriters or group insurance sales organizations would provide the Section 89 compliance service to smaller employers.

The health insurance carriers, as a practical matter, cannot provide the service. Most employers use several different insurance carriers. Few offer the full range of insurance products required. Fewer still are competitive in all product areas. Further, what do you do if you change insurance carriers during a plan year?

My personal survey of the major health insurance underwriters that are active in this market turned up not a single company that is planning to provide Section 89 compliance services.

The typical health insurance sales organization is small and does not have the resources, technology or staff required to do the testing. Most health

insurance sales representatives operate independently or spend most of their time selling other insurance products.

A health insurance sales organization is considered large if it has four full-time employees. Because of potential tax penalties and lawsuits filed by employees, most employers want to do business with a substantial and experienced provider.

It is my opinion that Section 89 will result in dramatic changes in the employee benefits offered by employers, and in the organizations that market and service employee benefits. Most part-time group insurance sales representatives will move on to other markets. Small organizations will merge into larger ones or cease to exist.

For the company chief financial officer, benefits specialist and owner, Section 89 provides an opportunity to rethink a company's employee benefits package. Medical costs have been going up 20% to 40% per year. Programs that have been on the back burner, such as "cafeteria" (Section 125 plans) and cost-containment plans, can be examined. Section 89 compliance might not be the lemon that you think it is. You might have lemonade.

Excise Tax on Retirement Benefits

One-Time "Grandfather" Exclusion Available

ELAINE E. BEDEL, CFP
Indianapolis

INDIVIDUALS EXPECTING to receive a particular cash flow during retirement may be surprised to find Uncle Sam taking an additional slice of the pie. Beginning with retirement fund distributions in 1987, a 15% excise tax looms overhead.

This subject is important to you. It does not matter if you have begun to receive funds from your retirement nest egg or if you are still accumulating for future distribution. The new tax may apply to you, and you may be required to make a decision now.

New Tax on Retirement Fund

The Tax Reform Act of 1986 created a new tax. It is a 15% excise tax imposed on individuals who receive retirement benefits in any year in excess of \$150,000. It also applies to a lump sum distribution in excess of \$750,000. This tax is in addition to the ordinary income tax normally assessed when you receive these funds.

A similar 15% excise tax also is applied to excess accumulated retirement funds that your heirs may receive at

your death. This tax is in addition to the estate tax and cannot be reduced by an estate tax credit or deduction.

All qualified retirement funds are included. Examples of qualified plans include company pension or profit-sharing plans, 401(k) savings plans, self-employed Keogh plans, 403(b) tax-deferred annuity programs and individual retirement accounts. Non-qualified plans such as deferred compensation and bonus plans are not included.

"Grandfather" Election

Recently the IRS released regulations that allow individuals to "grandfather" amounts in their retirement accounts before the effective date of the law. Individuals with accrued retirement benefits from all qualified plans exceeding \$562,500 as of Aug. 1, 1986, are eligible to elect to "grandfather." This will in essence exclude those funds from the 15% excise tax. However, by electing to "grandfather," the threshold amounts for determining the excess annual distribution amount and lump sum amount may be lowered.

Decisions To Be Made

The decision to "grandfather" retirement funds is not a clear cut calculation. Many variables should be considered. For example, the age of the individual, health history and plans for receiving the funds are a few of the important factors. In addition, at the time of the election to "grandfather," a second decision must be made concerning the appropriate recovery method of the "grandfather" amount. The IRS provides two methods from which to

choose. An uninformed selection may cause more tax to be paid.

Election Deadline

If you are eligible to "grandfather" your retirement funds, the election must be made with the filing of your 1988 tax return. Once the final 1988 filing date passes, no election can be made. Once the election is made, it cannot be changed.

What To Do

1. Determine if you need to make a decision concerning the "grandfather" election. Request the plan administrator or trustee of each of your retirement plans and IRAs to provide the value of your accrued benefits as of Aug. 1, 1986.

2. If your total accrued retirement benefits are \$562,500 or more, you will need to determine whether making the "grandfather" election is to your advantage. Everyone's personal considerations will be unique. You may want to seek professional advice on making this important decision, remembering that the election, once made, cannot be changed.

3. If you are not eligible to make an election because your accrued benefits do not exceed \$562,500, you will need to consider whether maximizing your annual contributions to your retirement plans is to your advantage.

4. Regardless of whether you qualify to make the "grandfather" election, the actual timing and form of your retirement distribution is very important. Proper planning of distributions can help to minimize or eliminate the assessment of the 15% excise tax.

The author is a certified financial planner and director of personal financial planning at Coopers & Lybrand, Indianapolis. She serves on the national board of the 24,000 member International Association for Financial Planning, Inc.

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Rapidly Rising Medical Costs

Letter to the Editor

DEAR Physician:

We are sure as a member of the medical profession, you read the same information that we have indicating medical costs are rising at a rate of 30% to 70% this year.

We just finished meetings with all of our employees announcing a 20.8% increase in our group insurance premiums. We already had built in a 12% inflation allowance at the start of the year. Therefore, we have adjusted our premiums 32.8% upward this year. If we look at our actual experience, based on the first six months of the year, our claims are running 34% higher than what they were last year. It is very difficult to explain to employees who receive a 3% to 5% a year increase how any type of service can be increasing prices to that degree.

We employ in excess of 1,100 full-time employees, plus nearly 300 temporaries at our facility. We have over 1,700 individuals covered under our group insurance between employees and dependents. From January to July of this year, CTS of Berne and the

employees combined have paid more than \$500,000 in health insurance premiums. Approximately \$390,000 was paid by CTS but also more than \$110,000 was paid by employees. This size premium increase will take as much as 25% of the total wage increase for the year for those employees with family coverage. Therefore, we are requesting your help and want to make you aware of some of the items we discussed with our employees in our recent meetings.

We told them the problem goes beyond CTS of Berne and our community. It is really a problem for our entire society, and, if we do not get a handle on it as a society, there probably will be additional forced legislation that we as individual consumers will not like, that the hospitals will not like, and that physicians will not like.

One key point that we made with our employees is that there has been a lot of emphasis on malpractice suits in recent years and that this has to be a major concern for physicians. We explained that malpractice insurance is expensive for physicians, and that it also has to force them to be more cautious in decisions they make and perhaps involve other physicians and specialists to a greater degree. It is extremely unfortunate that there have been such liberal awards in some of the malpractice suits, and we know that this does add to your costs. At the same time,

we ask that you review the operation of your office and see what can be done to better control costs just as we have to do on a regular basis.

We certainly have found in our industry that we cannot pass on costs like we used to; in fact, there is constant pressure for further price reductions. What we have found is that we cannot just accept the way things have operated in the past, but have really had to work hard to seek new and different ways of accomplishing the same end without losing quality in the process. That is our request to you. We need your knowledge and your quality service, but we do need your help in seeking ways that this can be done with maintaining costs and lowering costs rather than these rapid increases. We encouraged our employees to ask questions and be prudent shoppers for medical care just as they are for other services. We are also sending a letter to the area hospitals asking for their assistance on this same topic.

CTS feels we have a responsibility to work together to best serve your patients and our employees, and to each operate our business in a cost-effective manner. If there are items that we can discuss with you and work together on to achieve this end, we certainly would welcome that opportunity.—Dean A. Bruick, vice-president of human resources, CTS Corp., Berne, Ind.

This letter, originally sent to about 100 Indiana physicians and hospitals in an area between Muncie and Fort Wayne, concerns the increasing costs of medical care and health insurance premiums. It is reprinted here with the permission of the author, Dean A. Bruick of CTS Corp., Berne, Ind.



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A Surplus of Shortages

Guest Editorial

MARK R. JOHNSON, M.D.

WHILE THE DEBATES drone on about surpluses and shortages of physicians and whether there will be too many or too few pediatricians or thoracic surgeons practicing in Centerville by the year 2000, I wonder if anything is being done about the surpluses of physicians who fall short of being worthy of the title. There are more and more of them these days, and the places they're com-

ing from should stop production immediately. The physicians I'm talking about are the ones who are:

- totally ignorant of medical ethics, professional courtesies and the laws that govern the practice of medicine;
- looking for a 40-hour-(or less)-a-week job that will replace a commitment to patients, a practice and a profession;
- more concerned with protecting themselves than being honest with their patients and conserving their patient's resources;
- willing to compromise what they believe is best for their patients with what some mouth says an insurance company will pay for or "approve";
- unwilling to talk with or even listen to patients or their families;
- unable or unwilling to make friends of their patients;
- "market oriented" rather than patient oriented.

And while this surplus seems to be expanding, there are growing shortages of certain other physicians. These are the ones who:

- serve as role models for students, peers and younger colleagues;
- possess and demonstrate the attributes of a scholar;
- have the courage to expose dishonest, unethical and incompetent colleagues;
- have the devotion to assume the task of leadership;
- possess the humility required to achieve greatness.

The place that used to produce these physicians must have gone out of business several years ago. Today the species is almost extinct.

While we're about it, maybe we should try to do something about *these* surpluses and shortages.

The author is editor-in-chief of the *Journal of the Oklahoma State Medical Association*.

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Recent Indiana Court Rulings

Catheter Manufacturer Not Liable for Injury

The manufacturer of a cardiac catheter was not liable for damages caused when a catheter broke when a nurse was attempting to remove it, a federal appellate court for Indiana ruled.

A patient underwent a single coronary artery bypass operation. During surgery, a physician inserted a cardiac catheter into the left atrium of the patient's heart to monitor his postoperative condition. The catheter was held in place by a purse-string suture. After surgery a nurse encountered some resistance in attempting to remove the catheter. It broke and a portion remained in the patient's heart. The patient later went to another institution, where he was advised that the risks of removing it outweighed the risks of leaving it in his heart.

In an action against the manufacturer, the patient claimed that it was strictly liable for damages caused by the breaking of the catheter. A jury found in favor of the manufacturer, and the patient appealed.

Affirming the decision, the appellate court said that the manufacturer had no duty to warn users of the catheter, other than the operating surgeon, that it was not to be removed while its needle was in place.

The surgeon had a duty to warn the patient and nurses. There was properly a jury question on misuse of the catheter by the physician. The catheter was not designed for the kind of use for which it was used. The manufacturer properly raised a jury question of whether the surgeon's suturing of

the catheter was an intervening cause of the patient's injuries.—*Phelps v. Sherwood Medical Industries*, 836 F.2d 296 (C.A. 7, Ind., Dec. 17, 1987)

Surgery Patient's Award of \$24,065 Adequate

An award of \$24,065 to a patient who suffered from a deep vein insufficiency problem after hernia surgery was adequate, the Indiana Supreme Court ruled.

In December 1981, a surgeon performed right and left inguinal hernia repair procedures on the patient. Four months later the patient was readmitted to the hospital because he was continuing to experience pain. The physician operated and found a partially entrapped spermatic cord and hydrocele, but no recurrent hernia.

The patient's leg became swollen and painful. A third operation revealed a thrombosed right saphenous vein. About a month later the patient saw a vascular surgeon, who determined that the patient had a deep venous insufficiency problem. The patient was unable to stand or sit for prolonged periods because his leg would become swollen and painful. He later experienced recurring thromboses. In January 1984, it was discovered that the patient had a congenitally absent right inferior vena cava.

In a malpractice action against the surgeon who operated on him initially, the patient claimed that he suffered loss of income and medical expenses of \$65,700 and would suffer a future loss of earnings in excess of \$600,000. A judge awarded him \$24,065, and he appealed.

An appellate court found the award inadequate and remanded for a new trial on the issue of damages only. The Indiana Supreme Court vacated the ap-

pellate court's opinion and affirmed the judgment of the trial court. Medical experts testified that impairment to the patient's vascular function was to some extent inevitable. The congenital absence of a right inferior vena cava did not relieve the physician from liability, but it could have caused thrombosis and made anticoagulant therapy ineffective. The trial court could have found the physician negligent in not starting anticoagulant therapy earlier or not consulting with a vascular surgeon earlier. The court could have found that the only negligence was failing to treat the thrombosed saphenous vein.

The Supreme Court said that the evidence did not establish that the physician was responsible for all of the patient's claimed injuries.—*Dunn v. Cadiente*, 516 N.E.2d 52 (Ind. Sup. Ct., Dec. 16, 1987)

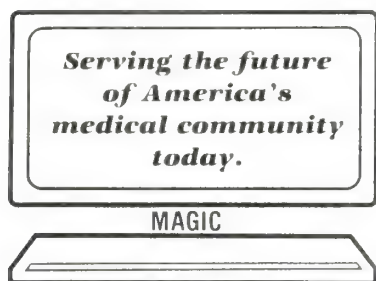
Coroner Does Not Have To Show Files to Reporter

A coroner's office did not have to disclose its files under the Access to Public Records Act, an Indiana appellate court ruled. An investigative reporter requested copies of the coroner's files. When the coroner's office did not comply, the reporter filed an action under the Access to Public Records Act. A trial court said that the coroner's office was a law enforcement agency that was entitled to withhold investigative reports, and the appellate court affirmed. The coroner's determination that he could not separate disclosable from nondisclosable material was not arbitrary in view of the possibility that some of the reports involved criminal matters not yet charged, the court said.—*Heltzel v. Thomas*, 516 N.E.2d 103 (Ind. Ct. of App., Dec. 17, 1987)

Reprinted from recent issues of *The Citation*, a medicolegal digest for physicians prepared by the Office of the General Counsel of the American Medical Association.

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CANCER CORNER

WILLIAM M. DUGAN, JR., M.D., Indianapolis

IT SEEMS EVERY 10 years or so we face a new, popular fad when it comes to unproven methods of cancer management. In the 1960s, it was krebiozen. In the 1970s, it was laetrile. Now, it is Hariton Alivizatos, M.D., from Athens, Greece, and the "Greek cancer cure."

The American Cancer Society issued the following statement in 1982: "After careful study of the literature and other information available to it, the American Cancer Society does not have evidence that the diagnostic procedure and treatment for cancer proposed by Hariton Alivizatos, M.D., result in objective benefit in the treatment of cancer in human beings."

A Medline search done Oct. 14, 1988, failed to identify a single scientific article written by Dr. Alivizatos in any language or any journal since the 1982 evaluation.

Cancer quackery is as old as the hills. Henry Jameson, M.D., professor of principles and practice of medicine and dean of the faculty of the Medical College of Indiana, said, "The present mental trend of society is accented by a growing tendency to follow with an avidity almost hysterical the many forms of charlatanism in medicine that present nothing new, unless it is the readiness with which they are accepted." This statement was made Dec. 28, 1898, in an address before the Marion County Medical Society. The address was published in its entirety in the January 1899 issue of *Indiana Medical Journal*.

The fervent emotion behind unproven methods of cancer treatment is more than simply an hysterical religious fanaticism. The majority of

the people involved are firmly convinced that these remedies are beneficial. Logical arguments with the proponents invariably prove futile. Three frequently unrecognized reasons for the steadfast belief that the remedies are beneficial are:

- unorthodox centers use orthodox treatments;
- the natural history of so many different cancers is extremely variable; and
- the Freireich Experimental Plan.

The first two reasons are self-explanatory. To clarify the last, E.J. Freireich, M.D., has published a detailed report analyzing the technique regularly utilized by individuals to convince themselves that a remedy of no value has value.¹

The physician may unintentionally be responsible for causing some patients to resort to unproven treatments. Three common reasons are:

- the establishment's indictment of "quack remedies," which often gives the appearance of looking after the interests of the physician, the FDA or the AMA rather than the patient's well-being;

- the physician's statement, "There is nothing else I can do"; and

- a physician's belief that an unproven remedy is an appropriate alternative for terminally ill patients who have failed all reasonable orthodox methods of treatment. This position probably will not be harmful to the terminally ill patient. However, it clearly may jeopardize another patient who might choose the unproven remedy based on exaggerated, inaccurate or misinterpreted reports of treatment benefit.

Three important strategies for dealing with unproven methods of treatment are:

- "to reaffirm publicly and in-

dividually our unwavering allegiance to the patient with cancer, no matter what mode of treatment he selects."² This does not presume that the physician is required to supply or administer the unproven remedy, rather that the physician will support the patient's or family's right to choose any or no treatment (a different strategy may be necessary when dealing with minors);

- physicians should counsel that there is always something else that can be done, be it aggressive symptom management or legitimate experimental programs; and

- to provide patients with pertinent, current information on unproven remedies. Two review articles and a comprehensive book are listed.^{3,4,5} Individual statements on unproven methods of cancer management are available from the Indiana Division of the American Cancer Society. (Call 1-800-ACS-2345).

Physicians need to be prepared to respond appropriately to the issue of unproven methods of therapy. The problem is as old as the hills, and as physicians, we will be faced with this dilemma until all cancer is cured.

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Deborah A. Dugan, M.S., a second-year student at the Indiana University School of Medicine, co-authored this column.

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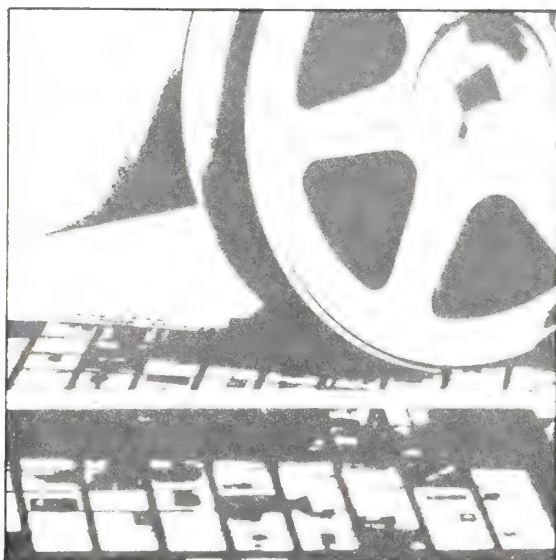
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CME QUIZ

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Epidural Abscess

CONTINUED FROM PAGES 1015-1019

- Each of the following would be expected in a patient with a spinal epidural abscess, except:
 - back pain
 - paresis of appendicular muscles and loss of bowel and bladder control
 - absence of tenderness to percussion over the vertebral column
 - radicular pain in the extremities or girdle-pain around the trunk
- Any of the following signs and symptoms would be expected in an isolated intracranial epidural abscess except:
 - unrelenting unilateral headache and persistent fever
 - fever and swelling and drainage from a craniotomy site
 - mild disturbances of consciousness
 - seizures
- The causative organisms in the majority of acute spinal epidural infections are:
 - streptococci
 - gram-negative bacilli
 - staphylococci
 - gram positive bacilli
- The causative organisms in the majority of acute intracranial epidural infections that develop from frontal sinusitis, middle ear infections or mastoiditis are:
 - streptococci
 - gram-negative bacilli
 - staphylococci
 - gram-positive bacilli
- The most common location for a spinal epidural abscess is:
 - the anterior cervical region
 - the anterior mid-thoracic region
 - the posterior mid-thoracic or lower lumbar epidural space
 - the intervertebral disc space
- All of the following are common etiologies for both spinal and cranial epidural abscesses, except:
 - hematogenous seeding of the epidural space from a distant site of infection
 - a contiguous site of infection, such as an osteomyelitis
 - trauma
 - neurosurgical procedure
- In the diagnosis of an intracranial epidural abscess all of the following are true, except:
 - on the non-contrasted CT scan an epidural abscess has the appearance of a poorly defined, lentiform area of low density adjacent to the skull
 - plain radiographs of the skull may demonstrate an underlying sinusitis, otitis or osteomyelitis
 - when an intracranial abscess is suspected, cerebrospinal fluid should be emergently obtained from a lumbar interspace for gram stain and culture
 - immediate neurosurgical intervention is indicated for drainage of the epidural abscess
- In the diagnosis of a spinal epidural abscess all of the following are true, except:
 - performing a lumbar puncture at the site of a possible abscess carries the risk of contamination of the subarachnoid space
 - an associated vertebral osteomyelitis is evident on plain radiographs of the spine at the time an epidural abscess becomes symptomatic
 - aspiration of pus under CT guidance is the best method to establish the diagnosis and determine the causative organism

NOVEMBER CME QUIZ Answers

Following are the answers to the CME quiz that appeared in the November 1988 issue: "Evaluation of the Infertile Couple."

- | | |
|------|-------|
| 1. d | 6. b |
| 2. e | 7. e |
| 3. e | 8. a |
| 4. e | 9. e |
| 5. c | 10. c |

CONTINUED ON PAGE 1067

Answer sheet for Quiz: (Epidural Abscess)

- | | |
|------------|-------------|
| 1. a b c d | 6. a b c d |
| 2. a b c d | 7. a b c d |
| 3. a b c d | 8. a b c d |
| 4. a b c d | 9. a b c d |
| 5. a b c d | 10. a b c d |

Name (please print or type)

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I wish to apply for one hour of category 1 AMA Continuing Medical Education credit through the I.U. School of Medicine. I have read the article and answered the quiz on the answer sheet above. I understand that my answer sheet will be graded confidentially, at no cost to me, and that notification of my successful completion of the quiz (80% of the questions answered correctly) will be directed to me for my application for the Physician's Recognition Award of the American Medical Association. I also understand that if I do not answer 80% of the questions correctly I will not be advised of my score but the answers will be published in the next issue of INDIANA MEDICINE.

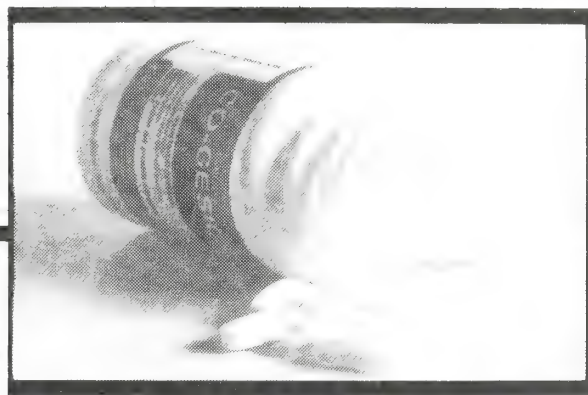
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Generic Name:
Dosage Forms:

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GUANABENZ

Antihypertensive
Wytensin, Wyeth
Guanabenz acetate
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Category:
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Generic Name:
Dosage Forms:

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Monistat, Janssen
Miconazole
Injection, powder,
spray, cream, lotion,
vaginal suppositories

MICRONASE

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Micronase, Upjohn
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AUXILIARY REPORT

Ann Wrenn, Bloomington
ISMA Auxiliary President 1988-89

Year after year, physicians and their spouses in our Hoosier state team up to support medical education through AMA-ERF. (The "team" reportedly also consists of some "Boilermakers," "Domers," a few "Buckeyes" and others.)

Dedicated members of the ISMA Auxiliary take turns serving as chairmen of the county AMA-ERF committees and work diligently to raise funds for the AMA Education and Research Foundation. In fact, one chairman this year, Muriel Osborne, Delaware-Blackford County, is serving in that capacity in her county—reportedly the first chairmanship she accepted as a young auxilian "a few years ago."

We hope many ISMA members and auxilians participate this month in the most popular and largest fund-raiser for AMA-ERF—the Holiday Sharing Card. In many instances, physicians respond to notices in the county medical society newsletter regarding the project; in other medical families,

the spouse makes the donation through the auxiliary. In St. Joseph County last year, Dr. John Oren and his wife, Jeanne, each responded to notices in their newsletters. AMA-ERF benefited doubly when Dr. Oren decided to include himself and his office staff as donors, in addition to John and Jeanne's inclusion in the "Dr. and Mrs." category. Rarely does a totally tax-deductible donation result in a tasteful, timely, no-work-involved communication with all members of one's medical society.

Another popular project among auxiliaries is the "Value of Your Service" card. A donation is made to AMA-ERF in the name of someone who has delivered a service to the donor—an indication of gratitude. It is a wonderful way to recognize a job well done. If you should be the recipient of this card, feel honored. The card is designed to be applicable to many services, not just those of a physician. Nurses, ministers, dentists, committee chairmen or members could be

recognized through this special greeting.

Many other projects are popular fund-raisers for AMA-ERF in our state. Halina Imports donates 20% of funds from sales of jewelry, silk scarves, blown glass and Chinese embroideries at ISMA and ISMA-A conventions. Raffles of jewelry, money, quilts, trips or cruises often are sponsored by AMA-ERF committees. Delaware-Blackford County has sold neckties and scarves with the medical society emblem imprinted on them. Style shows, dinner-dances, silent (and loud) auctions, used book sales and flower sales are all profitable projects. Marshall County auxilians support AMA-ERF through a direct assessment plan included in their dues.

We are proud of the untiring dedication and devotion of the auxilians and their spouses in the continuing effort to support medical education through AMA-ERF in Indiana.—Ellaine Cox and Joann Wehlage, ISMA Auxiliary AMA-ERF chairmen.

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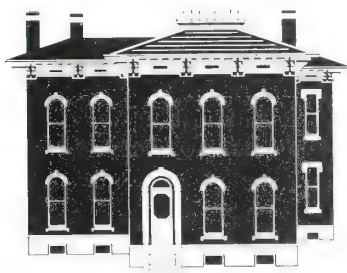
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In addition to providing benefits to physicians, the *Directory* is a practical means of providing financial support for INDIANA MEDICINE.

All diplomates of the ISMA are invited to enter a professional card in the *Directory*.

Poison Center Installs Phone Service for Deaf

The Indiana Poison Center at Methodist Hospital in Indianapolis has installed a telecommunications device for the deaf (TDD).

TDD users will be able to contact the Poison Center for emergency information or advice by calling (317) 929-2336.

The TDD is connected to a regular home telephone. It contains a keyboard for sending messages as well as a printer and display screen for receiving messages. Only homes with a TDD will be able to contact the Poison Center's TDD. For more information call the Poison Center at (317) 929-2335 or write to: Poison Center, Methodist Hospital of Indiana, 1701 N. Senate Blvd., P.O. Box 1367, Indianapolis, Ind. 46206.

AAMD Announces Name Change Effective Jan. 1

The American Academy of Medical Directors recently announced that it will assume the name of its affiliate, the American College of Physician Executives, and will merge corporate operations Jan. 1. The new American College of Physician Executives will immediately establish and sponsor a separate and independent certifying board, the American Board of Medical Management.

Film Covers Diabetes Detection and Treatment

Modern Talking Picture Service is distributing a 20-minute film titled "Don't Be Blind to Diabetes." The film stresses early diagnosis and prompt treatment. It acquaints audiences with the serious health problems, including blindness and even death, that can be caused by untreated diabetes.

The film is available in VHS and 16mm film formats. To order, send your request to Modern Talking Picture Service, Scheduling Center, 5000 Park St. North, St. Petersburg, Fla. 33709.

Send your news items and comments to the Editor, INDIANA MEDICINE, 3935 N. Meridian St., Indianapolis 46208.

Doctors Can Enroll Office Nurses in Association

The American Association of Office Nurses, a nonprofit corporation, is inviting all physicians to enroll their office nurses in the association.

The A.A.O.N. was organized to provide its members with continuing opportunities for professional growth and development in the care, treatment and education of medical patients. A research survey of 10,000 physicians recently showed that 59.9% of those surveyed desired continuing education programs for their office nurses. For more information, write to the association at 196 Kinderkamack Road, P.O. Box 339, Park Ridge, N.J. 07656 or call (201) 391-2600.

Program Addresses HIV/HBV Infection Control

Nurses, physicians and other medical staff members must know how to reliably protect themselves and their patients from hepatitis B and AIDS infections. That's why an educational and training program called "AIDS/Hepatitis B: Infection Control, Protecting the Medical Staff" was developed to help protect health care personnel.

The program, developed by TRIAD Communications, covers exposure concerns, methods of transmission, virus inactivation, universal precautions, environmental considerations and accidental exposure. It has the approval of the Occupational Safety and Health Administration, the Joint Commission on Accreditation of Hospitals and Centers for Disease Control inspection guidelines.

For additional information about the program, call TRIAD Communications at 1-800-727-9700.

ILIB Hotline Answers Questions Nationwide

The International Lipid Information Bureau (ILIB) has reported it answered more than 600 telephone calls from doctors, health care professionals and journalists during its first year of operation.

The bureau answers questions and fulfills requests for information through its computerized national database and library of clinical and consumer articles on blood lipid and cholesterol-related topics.

The ILIB is designed to serve as an international clearinghouse of information and education on the subject of blood lipid disorders for physicians, other medical and public health professionals and the media.

To contact the ILIB, call 1-800-332-ILIB.

HOSPICELINK Helps Locate Hospice Care

The Hospice Education Institute, a nonprofit organization based in Essex, Conn., is offering its HOSPICELINK service to people who need referrals to local hospices or who wish to learn how hospices help patients and bereaved people. It was designed to help people at difficult times in their lives.

This service is free and answers more than 400 calls each month. The HOSPICELINK number is 1-800-331-1620.

Here and There ...

Dr. J. William Wright III of Indianapolis was a panelist for a seminar titled "Hearing Improvements After Non-destructive Inner Ear Surgery for Hydrops" at a recent meeting of the American Academy of Otolaryngology—Head and Neck Surgery in Washington, D.C.

Dr. Randolph W. Lievertz of Indianapolis recently gave three lectures on menopause, to the physicians of the

Steuben County Medical Society, the family practice residents at Community Hospital in Indianapolis and a group of physicians at St. Francis Hospital in Cape Girardeau, Mo.; he also spoke to a selected group of St. Louis physicians on the diagnosis and management of osteoporosis.

Dr. William S. Sobat of Indianapolis recently received a 3-year appointment as Cancer Liaison Physician for the cancer program at Methodist Hospital of Indiana, Indianapolis; the Cancer Liaison Program is an integral part of the Commission on Cancer of the American College of Surgeons.

Dr. George E. Waters Jr., an Indianapolis ophthalmologist, recently attended a special international briefing in Copenhagen, Denmark, that featured a major technological breakthrough in the area of cataract surgery.

Dr. John E. Joyner, an Indianapolis neurosurgeon who was cited for organizing the National Conference on Teen Pregnancy and Infant Mortality, was listed as one of America's top black doctors in the October issue of *Black Enterprise* magazine.

Dr. Peter R. Skafish of LaPorte spoke at LaPorte Hospital about managing simple childhood illnesses.

Dr. Merrill Grayson, distinguished professor emeritus of ophthalmology at the Indiana University School of Medicine, donated more than \$123,000 to the I.U. School of Medicine to establish an endowed fellowship fund in the department of ophthalmology where he began his teaching career in 1957.

Dr. Joseph A. Frederick, a Logansport internist, answered diet-related questions from callers during a WSAL radio call-in program designed to inform and educate the community on heart-healthy eating habits.

Dr. Richard C. Strong of New Castle recently discussed peripheral vascular disease and screened participants at Henry County Memorial Hospital during its Focus on Aging Program; he also participated in a ribbon-cutting ceremony for Henry County Hospital's new walkways.

Dr. Michael J. Pyle, a Danville general surgeon, spoke on the "Spiritual and Mental Dimensions of Healing" at the annual meeting of the Hendricks Community Hospital Chaplaincy Association.

Dr. Robert J. Warren and **Dr. Dana H. Reihman** of Richmond lectured at

Reid Memorial Hospital in Richmond about asthma in children.

Dr. Paul S. Rider of Richmond moderated a panel of experts who discussed addiction and attitudes toward addiction during a program at Reid Memorial Hospital in Richmond.

Dr. William R. Thompson of Winamac was honored at an open house at Pulaski Memorial Hospital after 47 years as a general practitioner; he retired Aug. 1.

Dr. Clarence E. Ehrlich, chairman of the department of obstetrics and gynecology at the Indiana University Medical Center, is among 107 doctors cited in a *Good Housekeeping* magazine poll as the best ob-gyn specialists in the country.

Dr. Frederick P. Ridge of Linton was elected chairman of the board of the Indiana Academy of Family Physicians at its 14th annual scientific assembly.

Dr. Wayne H. Thompson and **Dr. Berj Antreasian** of Indianapolis received the annual Fellowship of Distinguished Physicians Award at Community Hospitals for their outstanding service, education, research and patient care.

Dr. Louis J. Calli Jr. of Bloomington has been elected to fellowship in the American College of Cardiology.

Physician Recognition Awards



The following ISMA physicians are recent recipients of the AMA's Physician Recognition Award. This award is official documentation of Continuing Medical Education hours earned, and is acceptable proof in most states requiring CME in re-registration that the mandatory hours of CME have been accomplished.



Applegate, George W., Indianapolis
Athar, Shahid, Indianapolis
Baker, George L., Evansville
Burt, Robert W., Indianapolis
Feeney, Martin T., Indianapolis
Foster, Lowell G., Indianapolis
Gonzalez, Alfredo B., Indianapolis
Haslitt, Joseph H., Muncie
Henley, Anne E., Kokomo
Hernandez-Flores, Graciela E.,
Highland

Herrell, Michael A., Evansville
Howard, M. Jane, Indianapolis
Hughes, William B., Waterloo
Johnson, John C., Valparaiso
Kishan, Anita I., Fort Wayne
Leiphart, Charles J., Muncie
Murphy, J. Brent, Corydon
Penkava, Robert R., Evansville
Rathbun, John M., Fort Wayne
Rau, David C., Columbus
Rau, John D., Indianapolis
Rausch, James M., Fort Wayne

Schmetzer, Alan D., Indianapolis
Sixbey, Maurice D., Denver
Smith, Donald W., South Bend
Sorak, Katia, Munster
Speck, Carlson R., Muncie
Stein, Mark H., Indianapolis
Stettbacher, Lynne L., Fort Wayne
Stransky, Theodore J., Evansville
State, Randall W., Indianapolis
White, John P., Bloomington
Yast, Charles J., Merrillville

NEWS NOTES

Here and There . . .

Dr. Michael R. Burt, a Muncie pediatrician, was a panelist during a question and answer session titled "Ask the Doctor," sponsored by Ball Memorial Hospital and WLBC Radio.

Dr. Robert M. Seibel of Nashville recently was honored at an open house at the Nashville Elementary School in recognition of his 40 years of practice in Brown County.

Dr. Hanus J. Grosz of Indianapolis recently spoke about "The Use of Medical Hypnosis in the Treatment of Nicotine Addiction" at the Wales Postgraduate Lecture Program of the University of Wales College of Medicine in Cardiff, Great Britain.

Dr. William A. Koontz of Gas City recently received the Citizen of the Year Award from the Gas City Kiwanis Club for his 40 years of service to the community.

Dr. William D. Province of Franklin received the Tony and Mary Hulman Health Achievement Award for his national, state and local contributions to health since 1936.

Dr. Sribislav N. Brasovan of Merrillville recently helped acquire used anesthesia machines and surgical

lasers for Lukanus, Inc., a non-profit corporation he organized to help underprivileged medical facilities in foreign countries.

Dr. Daniel R. Evans of Valparaiso received an honorary doctoral degree from Purdue University Calumet during commencement exercises at the Calumet Campus; he was recognized for his services in ophthalmic surgery and his contributions to medical education.

Dr. Larry T. Micon, an Indianapolis specialist in trauma and critical care surgery, has been named clinical director of trauma at Methodist Hospital in Indianapolis.

Dr. Dean D. Maglinte of Zionsville was named a fellow of the American College of Radiology during its recent annual meeting in Cincinnati.

Dr. George A. Horvath, a South Bend pediatrician, discussed developmental stages, goals, obstacles and ways of developing self-confidence in children at a lecture titled "Sports, Academics and Relationships" at the Bendix Theatre in South Bend.

Dr. Steven P. Crowell of South Bend spoke on the physical consequences of stress during a lecture sponsored by the South Bend Clinic and Surgicenter.

Dr. James S. Touloukian of Bloomington was the featured speaker at a meeting of the Bloomington Area United Ostomy Association.

Marcia J. Campbell, M.D., Bloomington, anatomic and clinical pathology.

David F. Canal, M.D., Indianapolis, general surgery.

Glenwood A. Charles, M.D., Indianapolis, otolaryngology.

Deborah J. Ciacone, M.D., Indianapolis, family practice.

Peter E. Doris, M.D., Downers Grove, Ill., radiology.

Vladimir Dvorak, M.D., Indianapolis, general preventive medicine.

Sheryl L. Elston, M.D., Columbus, family practice.

David F. Felkins, M.D., Indianapolis, family practice.

Daryl L. Hersherberger, M.D., Fort Wayne, family practice.

Richard A. Horstmeyer, M.D., Fort Wayne, family practice.

Lori J. Ingram, M.D., Fort Wayne, family practice.

J. Phillip Jackson, M.D., Fort Wayne, family practice.

Ralph H. Kahn, M.D., Indianapolis, orthopedic surgery.

Roger G. Klauer, M.D., Granger, physical medicine and rehabilitation.

Terry J. Kosinski, M.D., Michigan City, family practice.

Faye L. Magneson, M.D., South Bend, internal medicine.

Raul A. Marquez, M.D., Indianapolis, orthopedic surgery.

R. Bruce McClure, M.D., Mishawaka, family practice.

Joseph D. McPike, M.D., Indianapolis, family practice.

Robert K. Moseman, M.D., Bloomington, orthopedic surgery.

Richard K. Niccum, Jr., M.D., Fort Wayne, family practice.

Mark S. O'Brien, M.D., Fort Wayne, family practice.

Richard A. Parker, M.D., Fort Wayne, family practice.

John G. Peters, M.D., Beech Grove, orthopedic surgery.

William D. Rheuble, M.D., Richmond, family practice.

Prevesh K. Rustagi, M.D., Fort Wayne, psychiatry.

Ramon O. Ryan, M.D., Indianapolis, general preventive medicine.

Jaime N. Salomon Jr., M.D., Indianapolis, internal medicine.



New ISMA Members

Zoreen M. Ansari, M.D., Granger, family practice.

Evangeline Archer, M.D., Indianapolis, psychiatry.

Ruth Mendenhall Barrett, M.D., Bloomington, anatomic and clinical pathology.

Ted Bloch, M.D., Indianapolis, anatomic pathology.

Robert B. Bode, M.D., Richmond, infectious diseases.

Daniel E. Boyle Jr., M.D., Michigan City, urological surgery.

Randall D. Brown, M.D., South Bend, family practice.

Lesley M. Scholl, M.D., Fort Wayne, unspecified.

Eric F. Schulte, M.D., Merrillville, internal medicine.

Thomas L. Sutula, M.D., South Bend, family practice.

Pio G. Valenzuela, M.D., Indianapolis, pulmonary diseases.

Cynthia L. Vanderbosch, M.D., Fort Wayne, family practice.

Joseph A. Venditti Jr., M.D., Merrillville, general surgery.

Paul J. Vessely, M.D., Franklin, family practice.

Patrick E. Wright, M.D., Indianapolis, pulmonary diseases.

Residents:

Donnamarie Darcy-Loescher, M.D., Indianapolis, internal medicine.

Brenda S. Gierhart, M.D., Indianapolis, obstetrics and gynecology.

Anne E. Henley, M.D., Noblesville, ophthalmology.

G. Larsen Kneller, M.D., LaPorte, family practice.

Sanford S. Kunkel, M.D., Indianapolis, orthopedic surgery.

J. Scott Pittman, M.D., Indianapolis, general surgery.

David A. Plager, M.D., Indianapolis, ophthalmology.

Ronald W. Powell, M.D., Mishawaka, family practice.

Charles R. Purdy, M.D., South Bend, family practice.

Richard R. Smith, M.D., Indianapolis, radiology.

Maurice G. Swanson, M.D., Beech Grove, family practice.

Alan Wagoner, M.D., Greencastle, obstetrics and gynecology.

Bruce W. Young, M.D., South Bend, family practice.

CME QUIZ . . .

CONTINUED FROM PAGE 1048

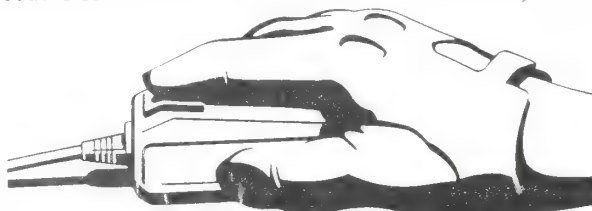
- d. a magnetic resonance scan is able to accurately demonstrate an epidural abscess
9. In the majority of patients, an acute spinal epidural abscess requires immediate laminectomy with decompression and drainage of the epidural space. There are, however, some patients who can be managed with antibiotics alone. Medical therapy alone may be indicated in any of the following clinical situations, except:
 - a. patients with multiple medical problems
 - b. patients in whom the abscess involves a considerable length of the vertebral column
 - c. patients who have back pain only
 - d. patients who have signs of spinal cord compression
10. All of the following are true statements about antibiotic therapy except:
 - a. a penicillinase-resistant penicillin (oxacillin or nafcillin) should be initiated preoperatively in patients with acute spinal epidural abscesses
 - b. penicillin has excellent activity against streptococci
 - c. chloramphenicol has excellent activity against staphylococci
 - d. third-generation cephalosporins (e.g. cefotaxime, ceftriaxone) are used to treat infections by gram-negative bacilli

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OBITUARIES

Thomas O. Middleton, M.D.

Dr. Middleton, 72, a Bloomington pediatrician, died Sept. 13 at Bloomington Hospital.

He was a 1942 graduate of the Indiana University School of Medicine. He was an Air Force veteran of World War II and the Korean War.

Dr. Middleton was director of medical services at the Monroe County Jail from July 1977 until his death and was medical director for Head Start in Monroe County from 1964 until his death. He also was a director of school health services for the Monroe County Community Schools Corp. from 1963-1975. He was a member of the American Academy of Pediatrics and a diplomate of the American Board of Pediatrics. From 1975-1979 he was a member of the Bloomington City Council.

Clyde G. Botkin, M.D.

Dr. Botkin, 72, a Muncie general practitioner, died Sept. 3 at Ball Memorial Hospital in Muncie.

He was a 1942 graduate of the Indiana University School of Medicine and an Army veteran of World War II.

Dr. Botkin was the Delaware County health officer from January 1972 to December 1987. He was a member of the Ball Memorial Hospital clinical staff and the American Academy of Family Physicians. He retired from private practice in 1987.

William A. Johnson, M.D.

Dr. Johnson, 63, a North Vernon general practitioner, died Sept. 2 at Jennings Community Hospital.

He was a 1949 graduate of the University of Michigan Medical School and a Navy veteran of World War II.

Dr. Johnson had practiced medicine in North Vernon since 1952 and was on the staff at Bartholomew County Hospital. He served eight years on the North Vernon City Council and ran for the U.S. House of Representatives in 1972.

Robert B. Kessler, M.D.

Dr. Kessler, 68, Evansville, died Sept. 22 at St. Mary's Medical Center of Evansville.

He graduated from St. Louis University Medical School in 1944.

Dr. Kessler served on the medical boards at Deaconess Hospital and St. Mary's Medical Center.

Elaine M. Vlaskamp, M.D.

Dr. Vlaskamp, 85, a Muncie general practitioner, died Aug. 25 in Ball Memorial Hospital in Muncie.

She was a 1932 graduate of the Indiana University School of Medicine.

Dr. Vlaskamp was in her office until two weeks before her death. She was one of the first interns at Ball Memorial Hospital and opened her own practice in 1933.

Floyd T. Romberger, M.D.

Dr. Romberger, 77, a retired obstetrics and gynecology specialist and clinical assistant professor at Indiana University Medical Center, died Sept. 24.

He was a 1937 graduate of the Indiana University School of Medicine and served in the Medical Corps during World War II.

Dr. Romberger was a member of the American College of Obstetricians and Gynecologists and the American Fertility Society. He was also a member of the ISMA Fifty Year Club.

Robert P. Morse, M.D.

Dr. Morse, 51, Indianapolis, died Sept. 28.

He was a 1964 graduate of Indiana University School of Medicine and served in the National Guard six years.

Dr. Morse was in general practice 24 years and was a board member at Community Hospital in Indianapolis.

Victor V. Schrieffer, M.D.

Dr. Schrieffer, 82, Evansville, died Sept. 17 at St. Mary's Medical Center of Evansville.

He was a 1933 graduate of the Indiana University School of Medicine and served on the draft board during World War II.

Dr. Schrieffer practiced in Evansville 30 years. He was a member of the St. Mary's Medical Center and Deaconess Hospital staffs and was a past president of the Deaconess Hospital medical staff. He retired in 1971.

John S. Huoni, M.D.

Dr. Huoni, 87, a retired surgeon who practiced in Jeffersonville 46 years, died Aug. 25 at a hospital in Panama City Beach, Fla.

He graduated from the University of Louisville Medical School in 1928 and served his surgical residency at New York Polyclinic Hospital.

Dr. Huoni retired in 1986, when he moved to Panama City Beach.

Memorials: Indiana Medical Foundation

The Indiana Medical Foundation, Inc. was formed by the Indiana State Medical Association "for religious, charitable, scientific, literary or educational purposes." It provides financial assistance to support the educational mission of Indiana Medicine.

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The Foundation is pleased to acknowledge the receipt of gifts in remembrance of the following individuals:

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 Annual Meeting: June 14, 1989
- 10—Pres: Mary E. Carroll, Crown Point
 Secy: Barron M. Palmer, Hammond
 Annual Meeting: June 28, 1989
- 11—Pres: Joel L. Eikenberry, North Manchester
 Secy: Fred C. Poehler, La Fontaine
 Annual Meeting: Sept. 20, 1989
- 12—Pres: Thomas D. Smith III, New Haven
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- 13—Pres: G. Beach Gattman, Elkhart
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 Annual Meeting: Sept. 13, 1989

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"What a waste of time! I could have accomplished so much more had I been at my desk during this past hour." Have your people left meetings with these thoughts? According to a recent survey, more than 70 percent of the people who attended meetings at their companies felt that most were not worth their valuable time. What can you do to assure that your meetings will be productive?

Invite only appropriate participants

Mary Ann Dillon, president of the Real Time Computer Services Company, held a staff meeting for all of her executives every Monday morning. As she looked around the room, she realized that, at most meetings, only one third of the participants really could contribute to what was planned to be discussed. By only inviting those she knew were important to that meeting, she would avoid wasting the time of the others and also keep the meetings briefer because fewer people would participate.

At the next meeting, Ms. Dillon invited only those she thought should be there. How do you think those not invited reacted? They were upset. "Why wasn't I asked to attend?" "Is she giving me a hidden message?" "Are they going to be talking about me?" The obvious error Ms. Dillon made was not explaining her reason for this change. Doing this would mitigate any concerns on the part of those not invited.

Prepare the agenda

The agenda is the key to the success or failure of a meeting. It should be planned carefully, covering all matters that are to be discussed. By determining in advance not only what subjects will be addressed, but the order in which they will be covered, will make the meeting run smoothly. In establishing the sequence of topics, put the most complex at the beginning of the program. People come to meetings with clear minds and are able to approach these deeper matters more effectively early in the meeting. If scheduled for later, not only are they likely to be less attentive, but if it is a key matter, they may be thinking about it while other matters of less importance are being covered and not give adequate attention to them.

Send the agenda to all people who normally attend the meetings at least three days before the meeting. One way of restricting attendance is to indicate at the beginning of the agenda that only those people who feel they can contribute to the matters planned to be discussed need attend the meeting. This makes attendance a self-invitation, alleviating resentment of those not invited.

Stick rigidly to the agenda. Do not allow anybody to bring up any topic not on the agenda. If this should be attempted, suggest that, inasmuch as the subject is not on the agenda, it cannot be addressed, but can be placed on the agenda for the next meeting. Of course, if an emergency develops, an exception can be made.

Encourage participation

Gus Jensen prided himself in running meetings. He boasted about how all his people contributed to the subjects discussed. His staff had an entirely different perception of those meetings. "Gus tells us what he plans to do, then he asks if we have any ideas. When one of us suggests something, he immediately rejects it, so generally we all agree. There is no real participation."

Attendees should study the agenda and prepare to discuss each item. If data is needed to make a point, such data should be brought to the meeting and prepared in a manner that can

be easily presented to the group. People should be encouraged to prepare wall charts, other visuals or hand-outs, if appropriate. Discussion should be encouraged and disagreements brought out without fear of ridicule or retaliation.

The leader should ask questions that stimulate discussion and be open to questions from the group. It is better to have these questions brought up at the time of the discussion than have a special question-and-answer segment at the end of the meeting.

Ending the meeting

After all the items on the agenda have been covered, the leader should summarize what has been accomplished and, if decisions were made that must be implemented by others at the meeting, have those people state what they understand they will be expected to do and when it is planned to be completed. This will give the leader and all the participants feedback.

Minutes

So that there is no misunderstanding of what has been decided at the meetings, notes should be made. These need not be detailed transcripts of the entire discussion. A summary of the decisions made on each issue is sufficient. Details of the points for or against an issue are not usually helpful.

After the meeting, copies of the minutes should be distributed to all management personnel and others who may be affected by what was determined. This will enable all the attendees to have a permanent record of what was accomplished and let those who were not present know what was decided.

Meetings in volunteer organizations

The same rules that apply to conducting business meetings should be applied in board meetings of volunteer organizations such as religious groups, community associations, social clubs and similar societies. Usually these meetings are conducted under Roberts' Rules of Order.

The usual structure of these meetings calls for committee reports, old business and then new business. An agenda covering the first two can be readily developed, but there is little control over "new business."

Sarah was presiding over the board meeting for her school PTA. It was 9 PM and they had just completed the old business section. As the hour was late and Sarah had things to do at home, when she called for "new business," she crossed her fingers and hoped nothing would be brought up. Sure enough, one board member had a pet project he was trying to promote and the meeting went on and on for another hour.

To overcome this problem, suggest that the rules be changed. Instead of "new business," substitute "suggestions for the next meeting." By doing this, although ideas may be introduced, no discussion can take place and the meetings will conclude much earlier. Control over the meeting is assured by sticking to the agenda. Other matters can be deferred until a time when they can be incorporated in the agenda.

You can make your meetings more useful and productive if properly planned and carefully controlled

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50% greater improvement with Limbitrol in the first week than with amitriptyline alone²

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References: 1. Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 2. Feighner VP, et al: *Psychopharmacology* 61:217-225, Mar 22, 1979.

Limbitrol[®] ^{IV} Tranquilizer—Antidepressant

Before prescribing, please consult complete product information, a summary of which follows:

Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants; concomitant use with MAOIs or within 14 days of monoamine oxidase inhibitors (then initiate cautiously, gradually increasing dosage until optimal response is achieved); during acute recovery phase following myocardial infarction.

Warnings: Use with caution in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur when used with anticholinergics. Closely supervise cardiovascular patients. Arrhythmias, sinus tachycardia, prolongation of conduction time, myocardial infarction and stroke reported with tricyclic antidepressants, especially in high doses. Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).

Use in Pregnancy: Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations. Consider possibility of pregnancy when instituting therapy.

Withdrawal symptoms of the barbiturate type have occurred after discontinuation of benzodiazepines (see Drug Abuse and Dependence).

Precautions: Use cautiously in patients with a history of seizures, in hyperthyroid patients, those on thyroid medication, patients with impaired renal or hepatic function. Because of suicidal ideation in depressed patients, do not permit easy access to large quantities of drug. Periodic liver function tests and blood counts recommended during prolonged treatment. Amitriptyline may block action of guanethidine or similar antihypertensives. When tricyclic antidepressants are used concomitantly with cimetidine (Tagamet), clinically significant effects have been reported involving delayed elimination and increasing steady-state concentrations of the tricyclic drugs. Use of Limbitrol with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Should not be taken during the nursing period or by children under 12. In elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects. Inform patients to consult physician before increasing dose or abruptly discontinuing this drug.

Adverse Reactions: Most frequent: drowsiness, dry mouth, constipation, blurred vision, dizziness, bloating. Less frequent: vivid dreams, impotence, tremor, confusion, nasal congestion. Rare: granulocytopenia, jaundice, hepatic dysfunction. Others: many symptoms associated with depression including anorexia, fatigue, weakness, restlessness, lethargy.

Adverse reactions not reported with Limbitrol but reported with one or both components or closely related drugs: **Cardiovascular:** Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke. **Psychiatric:** Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania, increased or decreased libido. **Neurologic:** Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns. **Anticholinergic:** Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract. **Allergic:** Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus. **Hematologic:** Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia. **Gastrointestinal:** Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue. **Endocrine:** Testicular swelling, gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion. **Other:** Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

Drug Abuse and Dependence: Withdrawal symptoms similar to those noted with barbiturates and alcohol have occurred following abrupt discontinuance of chlordiazepoxide; more severe seen after excessive doses over extended periods; milder after taking continuously at therapeutic levels for several months. Withdrawal symptoms also reported with abrupt amitriptyline discontinuation. Therefore, after extended therapy, avoid abrupt discontinuation and taper dosage. Carefully supervise addiction-prone individuals because of predisposition to habituation and dependence.

Overdosage: Immediately hospitalize patient. Treat symptomatically and supportively. I.V. administration of 1 to 3 mg physostigmine salicylate may reverse symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

How Supplied: Double strength (DS) Tablets, white, film-coated, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt), and Tablets, blue, film-coated, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)—bottles of 100 and 500; Tel-E-Dose[®] packages of 100; Prescription Paks of 50.



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In the depressed and anxious patient

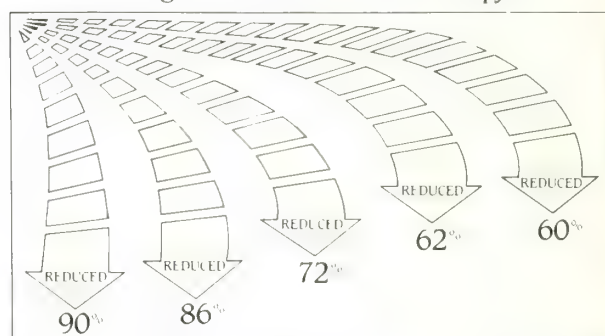
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And The Weeks That Follow

- ◆ 74% of patients experienced improved sleep after the first *h.s.* dose¹
- ◆ First-week reduction in somatic symptoms¹

Caution patients about the combined effects of Limbitrol with alcohol or other CNS depressants and about activities requiring complete mental alertness, such as operating machinery or driving a car. In general, limit dosage to the lowest effective amount in elderly patients.

Percentage of Reduction in Individual Somatic Symptoms During First Week of Limbitrol Therapy*



VOMITING NAUSEA HEADACHE ANOREXIA CONSTIPATION

*Patients often presented with more than one somatic symptom.

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